DOCUMENT RESUME

ED 029 500 24 EM 007 179

By-Vasil, Thomas, Comp. and Ed.
A Project for the Improvement of Music Education at Elementary, Junior High, Senior High, and College Levels through the Use of Non-Book Instructional Media. Final Report.
Lexington Public Schools, Mass.; Massachusetts State Dept. of Education, Boston.
Spons Agency-Office of Education (DHEW), Washington, D.C. Bureau of Research.
Report No-ESEA-4
Bureau No-BR-6-2131
Pub Date Aug 68
Contract-OEC-1-6-062131-1356
Note-145p.
EDRS Price MF-$0.75 HC-$7.35
Descriptors-Audio Equipment, Audiovisual Aids, *Audiovisual Instruction, Audiovisual Programs, Elementary Education, Higher Education, *Instructional Media, Learning Laboratories, *Multimedia Instruction, *Music Education, Music Reading, Music Techniques, Overhead Projectors, Phonograph Records, Projection Equipment, Secondary Education, Systems Approach, Tape Recorders, Teacher Developed Materials, Teacher Education, Teaching Techniques, Transparencies
Identifiers-*Massachusetts Music Educators Association

At a summer conference held in 1966 at Lexington High School in Massachusetts, participants, representative geographically and by learning level, developed packets of audiovisual materials for Music Education. The use of these packets (accompanied by study guides) during the following academic year, 1966-67, was followed by a second summer conference where interpretation of evaluation results was added to the basic procedures of the first conference. In the second academic year, 1967-68, the materials were used in more situations, enhancing the final assessment of evaluation results by the third summer conference. Objectives of the project to produce and evaluate audiovisual materials for all levels of music education were attained by an informal research procedure. It was concluded that the use of non-book instructional materials is an effective means of improving music education, but the misuse of such materials will almost as certainly cause harm. The final conclusion was that a multimedia approach has its greatest value in allowing for variety of presentation modes. A glossary, a list of project staff, and an inventory of materials are appended. (RP/MF)

ED029500

FINAL REPORT
Project No. 062131
Contract No. OEC-1-6-062131-1356

A PROJECT FOR THE IMPROVEMENT OF MUSIC EDUCATION AT ELEMENTARY, JUNIOR HIGH, SENIOR HIGH, AND COLLEGE LEVELS THROUGH THE USE OF NON-BOOK INSTRUCTIONAL MEDIA

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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MASSACHUSETTS DEPARTMENT OF EDUCATION
in cooperation with
LEXINGTON PUBLIC SCHOOLS
Thomas Vasil, Project Director

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EM007179

August 1968

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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ACKNOWLEDGEMENTS

In the course of the completion of the many facets of this project valuable assistance was rendered by many individuals, institutions, and organizations. Gratitude and appreciation should particularly be expressed to: -

-The Administration and School Committee of the Lexington Public Schools, Lexington, Massachusetts for support as a submitting institution and for providing the necessary facilities.

-Dr. Robert A. Choate of Boston University for his encouragement and guidance particularly in the initial phases of the project.

-The Officers and Executive Board of the Massachusetts Music Educators Association for their forward thinking in the organization of research and study groups.

-Dr. Frank DiGiammarino, Instructional Materials Consultant to the project, for allowing us to reflect his cumulative thinking on the concept of technology and its relation to and integration with the total process of education.

-The project staff and the institutions and school systems with which they are affiliated, the latter for providing proving grounds for materials which have been developed. Special commendation is due to the entire project staff who remained intact over the three-year-period of conception, revision, and evaluation of their materials, foregoing other opportunities in their dedication to the completion of their tasks.

We wish to express thanks to the following publishers and recording companies for the courtesy extended to the project by permitting the use of copyrighted materials within the limited context of the project work. It should be pointed out to the reader that the permissions granted were very explicit regarding limitations or use. Any further use of the materials developed by the project favored by these permissions would require proper processing of copyright directly with those who hold said copyright.

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Shawnee Press Inc., Delaware Water Gap, Pennsylvania

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INTRODUCTORY SECTION

Summary

To understand the project the reader should have some information regarding the beginnings of the original proposal.

The first significant event was the association of the author with the instructional materials consultant to the project who was at that time the audio visual director for Lexington High School. The instructional materials consultant helped the author solve a teaching problem relative to orchestral score by devising a means of reproducing it on overhead transparencies. The success of this led both parties to consider the potential of media for music education.

A simultaneous development was the author's association with the research and development activities of the Massachusetts Music Educators Association under the direction of Dr. Robert Choate. The sub-group with which the author was associated was concerned with uncovering innovative techniques being used in the state. Not only were these comparatively few in number, but there was a notable lack of serious use of media. Based on the author's relative success with the transparency procedure, the sub-group decided to devote its efforts to media as a meaningful innovation for music education. After the group's reaching this decision, Dr. Choate advised us as to the possibility of gaining federal aid to finance our proposed efforts.

After securing the formal approval of the Lexington Public Schools and the Mass. Dept. of Education, a proposal was written, submitted, and ultimately accepted for funding under Title IV of the Elementary-Secondary Education Act of 1965 by the U.S. Office of Education.

The basic problem was to establish the relative worth of media to music education with emphasis on the medium of overhead projection and the medium of recorded sound. The objectives, both as stated in the original abstract and the section titled General Objectives, reflected these limitations.

Objective Number One from the abstract was "To develop non-book instructional materials for use at all levels and areas of instruction in Music Education." This was accomplished by providing the necessary equipment and technical assistance. The coverage of levels and areas was accomplished by the organization of the project staff by educational levels and the assignments within levels to diverse areas.

Objective Number Two from the abstract stated "To put into use in as many situations as possible the developed materials." This was accomplished by the following:

a. By utilizing the geographical division of the Mass. Music Educators Association as reflected in the original sub-group of the research study activities total coverage of the state was made possible.

b. By gaining from the participants' respective school systems assurances of cooperation the implementation of developed materials was guaranteed.

c. By allowing participants to create materials for their respective teaching situations implementation was further guaranteed and relevancy assured.

Although the use of materials was limited in most cases to the one situation for which they were created in the first academic year, systematic sharing of materials within the project staff greatly expanded material use for the second academic year.

Objectives three and four refer to the construction and use of evaluation instruments. In terms of assessing curriculum improvement, this was satisfactorily achieved. Upon advice of a psychometric consultant, no attempt was made to employ standardized tests or to compile statistical data based on the relatively limited use of the materials and their companion evaluation instruments. A more informal approach was felt not only to be justified but essential. The most important fact was that serious evaluation with some controlled objectivity was used.

An anecdotal approach rather than a formal instrument was used in evaluating change in teacher attitudes and behaviors. While each participant in contributing to the findings and analysis section of this report has had the opportunity of recording his anecdotal record, the author would like to comment from his perspective as project director that without exception changes in attitude toward media use occurred to a significant degree. The more sophisticated became even more enthusiastic and the novice moved from confusion to awareness. All recorded that teaching improved. This appeared to be due partly to the materials themselves but at least as much, if not more so, to the more accurate definition of educative purpose required by the meticulous organization of materials as made necessary by media use. It was obvious that excellent materials and organization in and of themselves could improve teaching, but with some of the universal limitations instruction of any form has always had. The prime factor in this case is the musical and intellectual ability of the teacher. Understand, however, that the improvement for all with all limitations taken into account was most definitely significant.

Objective Number Five was "To provide for refinement, revision, deletion, or addition of materials based on evaluation results." This was accomplished by following the over-all pattern of operation for the total proposal as follows:

a. A First Summer Conference was held in 1966 for the purpose of the initial development of materials.

b. A Second Summer Conference was held during which materials were able to be refined, revised, deleted, or new materials developed.

Objective Number Six was "To make available to the educational community at large, via government published report or reports, the process of development, manner of usage, evaluation results, and suggestions for further development or study, thus placing into some kind of meaningful perspective the values and techniques of developing non-book instructional materials as a means to improving curricula in Music Education." The organization and writing of this report is the primary means of meeting this objective. The total project staff was concerned that some attempt be made to reach the field by an exposure of the larger issues raised by our work without the technical detail required of a formal final report. A request for writing such a document was made and approved. A booklet with sections dealing with the following problems has been written by the project staff.

1. The problems and values of utilizing various means of projecting musical notation in order to enhance its use, understanding, and appreciation

2. The values in using multi-media materials for quick help or reference purposes

3. The problems of sound production and reproduction as an especially important and integral part of all multi-media materials in music education

4. The problems of technical hardware as it pertains to the production and presentation of software materials

5. Systems analysis as it pertains to the problems of learning

Throughout its existence the project has been especially sensitive to its responsibilities for dissemination. It has fulfilled these responsibilities in the following ways:

1. Individual demonstrations given for local staffs and school committees

2. Demonstrations given at special regional meetings within the state, and especially within the regional structure of the Mass. Music Educators Association

3. Clinics and demonstrations given as part of All-State Conferences both for the M.M.E.A. and other professional educational organizations

4. Demonstrations given under the auspices of the Music Educators National Conference at its Eastern Division meeting in Boston in February, 1967 and at its National Convention in Seattle, Washington in March, 1968

The use of non-book instructional materials is a means of improving music education. This statement coupled with the fact that the misuse of such materials will almost as certainly harm the process of education reflects what are the highlights of the findings of this project's work.

What the work has shown in the way of general significance or implications and recommendations for further study was revealed in two earlier statements of this section of the report. In pointing out the fact of teacher improvement, it was said that although the materials and their organization were extremely important, "the more accurate definition of educative purpose" was of greater importance. Add to this our desire to devote an entire chapter of the booklet to systems analysis. It becomes obvious that we consider our most important discovery to be that the clarification of educational objectives (as made possible by the application of systems analysis to instruction) is the essence of the total application of educational technology. The reader will note that this report gives concrete examples by level of the application of this principle to materials as developed by the project.

Since the awareness of this has come in the closing moments of the project, the application is theoretical and the issue of systems analysis is raised as the major implication and recommendation for further action. Systems analysis, long used by industry to measure the relationship of input and process to output, as applied to the learning process allows for a learner-oriented approach that feeds on a never ending evaluative process to determine its direction. The need for accurately stated measurable objectives is firmly established for any use of systems analysis. As multi-media materials serve to meet such objectives they will then in a most genuine manner significantly improve curricula.

Introduction

The problem was to establish as accurately as possible the relative value of non-book instructional materials to music education.

In scope the intention was to include all levels of music education (i.e. elementary, junior high, senior high, and college) and deal with the issue with emphasis on overhead projection and recorded sound.

The significance of the investigation is to a large extent a general concurrence of the positive effect of the implementation of the developed materials despite the somewhat random selection of the staff and the variety of actual materials created. The precise manner of this will be amplified in the next portion of the Introductory Section.

Methods

The participants in the project were selected to represent the geographical divisions of the Mass. Music Educators Association and the four identified learning levels of elementary, junior high, senior high, and college.

All the participants were brought together at Lexington High School, Lexington, Mass. where they had at their disposal equipment and supplies for creating materials for overhead projection and sound reproduction.

The groups had at their disposal a full-time instructional materials consultant to help guide the technical development of their work and the project director who along with level coordinators helped guide the subject matter content of the materials.

All materials were subjected to ongoing evaluation by these individuals and by the level groups as well as the total staff. Opportunities for both types of group evaluation were built into the regular schedule.

With the forementioned guidance each individual participant was allowed to choose his or her own media and subject matter concentration. The balance of vocal, instrumental, classroom, performance and appreciation was primarily guided by the level coordinators.

Because of the individuality of the materials a similar diversity in evaluation instruments and techniques was allowed.

To insure proper educational focus and to allow for the use of materials by persons other than the author, study guides were developed to accompany each packet of materials. The study guide contained all the information necessary for the implementation and evaluation of the materials it accompanied.

The developed materials were put into use during the following academic year, 1966-1967. With whatever frequency possible, the project director and level coordinators directly observed material implementation.

A Second Summer Conference was held and the basic procedures of the First Conference were followed. Added to it, however, was the interpretation of evaluation results. The emphasis was on revision and refinement though some deletion and addition of materials took place.

The procedure for the second academic year, 1967-1968, was as it was for the first. The materials were able to be used in more situations, thus enhancing the final evaluation results.

The Third Summer Conference was concerned with the following:

1. An assessment of all evaluation results

2. The writing of findings and analysis for each individual packet of material

3. The training of the project staff in the application of systems analysis.

4. The collective writing of a hypothetical application of systems analysis to a portion of a packet developed by the project was done for each level by the level group.

5. The collective writing by level groups of an assessment of the results of group interaction within levels.

6. The collective writing of a special report in booklet form by the project staff reorganized to cross learning levels to gain proper vertical perspective

In addition to direct observation and contact, lines of communication were maintained during the academic years by

1. Mail
2. Board of Directors' Meetings
3. Special Level Coordinators Meetings
4. An annual Mid-winter Full Project Staff Meeting

As is perhaps obvious the diversity of people (18 in number), the diversity of educational levels, and the diversity of geographical locations made an essentially informal research procedure and evaluation inevitable. More scholarly research supports the validity of such an approach.

FINDINGS AND ANALYSIS

Introduction

Because of the basic approach to the research, it was felt that the findings and analysis should be reported separately for each packet of materials developed. Considering the liberal use of anecdotal reporting regarding changing attitudes, the most sensible approach was to have the authors write the section pertaining to their materials. To avoid confusion and assist the reader in locating the most pertinent data, a single format for reporting the findings and analysis by packet was developed by the project director. It is as follows:

1. Objectives
2. Equipment Required for Using Packet
3. Description of Packet Materials
4. History of Development and Use
5. Evaluation Results
6. Implications for Further Development and Study

The materials are further organized by learning levels. Each learning level section begins with a preface which discusses the process and effect of group interaction on the development and evaluation of materials. Because of our recent awareness of instructional systems analysis as embodying in the most inclusive manner possible the meaning of technology in education, each learning level section ends with a hypothetical application of systems analysis to a portion of a selected packet from that level. This concluding section is the means chosen to offer implications for further development.

ELEMENTARY-LEVEL PREFACE

On first meeting, it was decided that we should apply ourselves to those areas in which we were most interested. Each member of the level chose a specific area in which to work. These areas were elementary music reading, appreciation, instrumental class lessons and band.

Individual problems in the area of design and construction were continually evaluated by level intra-action and revised accordingly.

Before materials were presented to the project group as a whole, the level was used as a sounding board for primary demonstrations and rationales. This made possible an inter change of ideas, broader evaluation and suggestions for better utilization of materials.

FINGERING CHARTS FOR ELEMENTARY WOODWINDS

developed by

Robert Morrill
Scituate Public Schools
Scituate, Massachusetts

OBJECTIVES

1. To teach new fingerings in group instruction
2. To correct wrong fingerings in group instruction

EQUIPMENT REQUIRED FOR USING PACKET

1. Overhead projector
2. Screen
3. Pointer

DESCRIPTION OF PACKET MATERIALS

The packet includes five projectuals for clarinet, two for flute and two for saxophone. The fingerings on each projectual are arranged on a rotating wheel and only one fingering may be shown on the screen at a time. Above each fingering is shown the name and position on the staff for each note or notes (enharmonic tones).

HISTORY OF DEVELOPMENT AND USE

The author, in the evaluation of his band class experiences, felt that a more efficient and illuminating means of correcting fingering problems and introducing new fingerings to woodwind players was needed with large groups. It was decided that the principle of a rotating wheel could be adapted to an overhead projectual which could make the enlarged fingering visible to all on an overhead screen. The construction of these projectuals offered some challenges which turned out to be a detering factor in the reproducing of this packet for use by anyone other than the author. This condition is also true of packets II and III for the same reason.

EVALUATION RESULTS

Since the use of these materials was limited as stated above, so then was the evaluation. In the opinion of the author, these fingering charts were of greatest value in large group situations and did in fact make for more efficient use of class time by eliciting a correct mass response.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

Any further development of these materials would have to be, in the author's opinion, one of design, mode of presentation, or both. Since its principal value was evident in large group situations, a systems approach would not seem to be advisable.

UNISON SCALES

developed by

Robert Morrill
Scituate Public Schools
Scituate, Massachusetts

OBJECTIVES

1. To teach the relationship of transposing instruments to concert pitch
2. To teach the relationship of transposing instruments to each other
3. To develop good intonation in performance through aural discrimination and long tone playing
4. To develop steady embouchure
5. To develop proper breath control

EQUIPMENT REQUIRED FOR USING PACKET

1. Overhead projector
2. Screen
3. Pointer

DESCRIPTION OF PACKET MATERIALS

The packet includes projectuals for the concert major keys of G, C, F, B flat, E flat, and A flat. Each projectual shows the scales for all instruments usually found in the elementary band for one of the concert keys listed in whole notes. Masks are arranged on each projectual so that any portion of the projectual or the entire projectual may be revealed for use. Each scale on the projectual has a different colored background and each projectual uses the same colors in the same order to facilitate visual recognition. Each projectual contains a drum part using elementary rhythms.

HISTORY OF DEVELOPMENT AND USE

How often have you asked your elementary band to play a concert B flat only to have students ask what note they should play or end up playing a B flat no matter what their instrument was? How often have you had to re-write an F horn part for an E flat horn or any other part for some reason? How often have you cringed inside due to poor intonation? These were the reasons for the development of this packet of materials. The packet has had limited use by the author only with elementary classes of like instruments and with full elementary band for the objectives as listed earlier. Although it was not the original intent of the author, portions of the packet were used with a high school band for the purpose of improving intonation.

EVALUATION RESULTS

The use of this packet was so limited that it cannot at this time receive valid evaluation, however each one of the objectives was met in some degree by its use.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

In the opinion of the author, any further development, if any at all is desirable, should be in the area of design, mode of presentation, or both. Since its principal value was most evident in group situations, a systems approach would not at this time seem advisable.

RHYTHM PATTERNS

developed by

Robert Morrill
Scituate Public Schools
Scituate, Massachusetts

OBJECTIVES

1. Teaching correct rhythmic response to music notation
2. Reinforcement of correct rhythmic response to music notation

EQUIPMENT REQUIRED FOR USING PACKET

1. Overhead projector
2. Screen
3. Pointer

DESCRIPTION OF PACKET MATERIALS

The packet consists of 6 projectuals. Each projectual is designed and constructed so that by sliding four transparent strips, each containing the same series of one measure rhythmic patterns, vertically across a blank 4 measure staff on the static, a wide variety of rhythmic exercises is available for use. Four of the projectuals have staffs with a common time signature and a sliding strip with a vertical line so that the common time may be changed to cut time. The two remaining projectuals have 6/8 time signatures. All sliding strips are interchangeable making an unlimited variety of rhythmic exercises.

HISTORY OF DEVELOPMENT AND USE

The author felt a need to have readily available a wide variety of rhythmic exercises designed to meet the needs of each rhythmic problem as it arose without the usual blackboard work and time involved with using the blackboard. To obtain this variety, the idea of using the one measure wide sliding strips seemed to make the most sense and having four identical strips for each series of rhythmic pattersn allowed for adequate repetition on any single problem as well as allowing for changes in the order of patterns.

Due to the involved construction of these materials, they were used only by the author. The author used them however, in several different ways. Students responded by instrument, neutral syllables, or clapping.

In using these materials the author did interchange strips between statics, adding to the variety and level of difficulty. The materials were also used in direct relation to specific rhythmic problems as they were encountered.

EVALUATION RESULTS

Since as stated above, the materials were used solely by the author, the evaluation is limited. The author, however, felt that they were quite successful and the students regarded the Rhythm Patterns as an enjoyable challenge.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND USE

Further development of these materials perhaps should be in the area of a learner oriented program for both the initial learning of rhythms and availability for review and reinforcement.

THEMES AND ANALYSES OF MUSICAL COMPOSITIONS FROM ADVENTURES IN MUSIC SERIES

developed by

Mrs. Ruth Ashley
Easton Public Schools
North Easton, Massachusetts

OBJECTIVES

1. To save time for both the special music teacher and the classroom teacher by having the material always available.
2. To develop a better understanding of music by reinforcing aural ability through the use of a visual stimulus.
3. To develop the ability to follow a melodic line.
4. To develop an awareness of musical form.
5. To develop a knowledge of musical elements, such as tempo, mood, dynamics, rhythm, and mode.

EQUIPMENT AND MATERIALS NECESSARY

1. A record player
2. A tape recorder and tap (optional)
3. An overhead projector complete with visual aid and pointer. (Visual aid TA-F-1 requires an overhead projector equipped with a horizontal roll attachment.)
4. A screen
5. The R.C.A. Victor "Adventures in Music" recordings and guides to:

Grade 3 Volume 1 Album
Grade 3 Volume 2 Album

Grade 4 Volume 1 Album

Grade 5 Volume 1 Album

Grade 6 Volume 1 Album

DESCRIPTION OF MATERIALS

Each packet contains transparencies of the themes and an analysis of the structure of the musical composition. A tape of the thematic material is optional. There is also a study guide to help organize the use of the materials. For identification purposes the following code will be used:

TA = Themes and Analysis
TA-A = Themes and Analysis Form A (Single Theme)
TA-AB = Themes and Analysis Form AB (Binary Form)
TA-ABA = Themes and Analysis Form ABA (Ternary Form)
TA-R = Themes and Analysis Form Rondo
TA-TV = Themes and Analysis Rorm Theme and Variation
TA-F = Themes and Analysis Form Fugue
TA-S-A = Themes and Analysis Form Sonata-Allegro

HISTORY OF DEVELOPMENT AND USE

Most of the materials were produced during the summer of 1965. The basic idea was to generate a creative project toward the appreciation level. It was felt that through appreciation an awareness of music could be generated in the student along with some realization of its importance in their life. Whether music is taught for "thrill" or "skills", many activities are utilized in creatively listening to an appropriate composition. A good appreciation lesson geared to the basic concepts of form will involve listening, performing, and creating. Because of the quality and the availibility of the R.C.A, Adventures in Music Appreciation Series it was chosen as the source from which to develop the project.

During the first summer the extensive chore was performed of designing projectuals to show the scores and to show the analysis of certain compositions. The selection of the compositions and the approach to the task was not simple. It was finally decided that the compositions could best be arranged according to form. The best compositions which would illustrate the form of interest were chosen. The actual making of the masters was then quite easy and straightforward. The only problem being the legibility of the projectual lettering, was taken care of by the use of the Foto-type and Leroy Lettering devices. The projectual masters were attractively arranged according to color with a basic color code for each form. The packet contained 31 projectuals illustrating the score and 22 projectuals illustrating the analysis. There was a total of 13 compositions.

The second summer (1967) resulted in the refinement of the original packet with 16 projectuals illustrating the score and 14 projectuals illustrating the analysis; therefore, only one composition for each form was included in the final packet. A concise and efficient grouping resulted.

The study guide which was written and assembled during the summer of 1965 to accompany the packet of projectuals was re-worked during 1966. It was designed so that anyone could use the packet with the aid of a guide and a minimum of supervisory direction. A system of coding was used to identify each projectual. The user of the packet is expected to know how to use the overhead projector and a tape recorder or record machine.

Each of the compositions was taped from the record and a short narration was read to explain to the listener the important background material or outstanding musical attributes to be emphasized in that composition. The themes were then played on the tape either once or twice. The user must therefore be able to use the correct projectual at the precise time the theme is played on the tape. It was found that this was preferable to using a tape with only the themes and narrations.

By using the guide to the Adventures in Music the user may then guide the class in a discussion of rhythm, mode, instrumentation, and the mood of the composition. The recording must be played again both with and without the projectuals to reinforce the listening skills outlined in the study guide.

The success of the packet at this level is dependent upon the assumption that the student has had a unit of the instuments of the orchestra and is familiar with the names of the instruments.

EVALUATION AND RESULTS

In order to evaluate the probability of success in the use of these packets three sets along with the accompanying study guides and a set of evaluation instructions were distributed in the elementary grades of Swampscott, Lancaster, and Easton.

An evaluation vehicle was used covering the following catagories :

Equipment Control
Technical Aspects of the Material
Design of Program
Evaluation of Pupils' Learning

The overall results of the evaluation were encouraging. There were also several constructive criticisms emitting from the users performing the evaluation.

I. EQUIPMENT CONTROL

(1) The tape recorder or record player should be arranged near the overhead projector.

(2) The tape recorder or the record player and the overhead projector must be available to be turned on and off so that the

class may discuss certain phases of the composition also in some cases it is necessary to add to the explanation already given on the tape and even of benefit to sing the various themes from the projectuals.

The evaluation also resulted in a number of statements concerning the technical aspect of the materials, design of the program and the evaluation of student learning.

II. TECHNICAL ASPECTS OF THE MATERIAL

In most cases the packet organization was such that the necessary equipment was present in the classroom at the specific time. All the equipment had been checked out beforehand and was in good working order. It took practice however to become completely skilled in using the equipment smoothly. Whereas initially much attention was paid by the students to the equipment used instead of the packet content, after an explanation of how the "hardware" worked and its value the students were no longer distracted by the equipment.

III. DESIGN OF THE PROGRAM

The study guide was only needed the first time the composition was played. After the first time, the user was able to proceed without constant reference to it. Errors in labeling of the projectuals were noted. The most apparent of these were on the Theme and Variation where the projectuals should have been labeled Theme and all of the other examples Variation I, Variation 2, etc. The theme should not only have been labeled Theme I but also the letter A used and in the case of the binary form Theme I should be A and Theme 2, B, etc.

IV. EVALUATION OF STUDENT LEARNING

In almost every case the student was able to follow the melodic line and was able to develop a knowledge of musical elements, especially mood, tempo, and dynamics. The student was also able to transfer the knowledge gained from the demonstrating composition to unfamiliar compositions; therefore, developing his learning ability. The availibility of the material was a great aid. The student became aware of form and was able to transfer his knowledge to other unfamiliar compositions. The student enjoyed the presentation of these materials and especially enjoyed following the melodic line.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

The packet could be designed to complement a learner oriented approach. Since it consists of a non-graded approach to music an entire elementary curricula based upon the use of the instructional elements portrayed among the various compositions listed above could readily be developed. Probably instead of transparencies, slides could be used. The packet as now presented is designed with the appreciation of music [illegible] as the overall objective. Ancillary objectives are melodic line reading, musical form recognition and development of a knowledge of musical elements, All of these objectives can be analyzed in terms of their cognitive and behavioral worth and specific instructional elements separated to establish a more comprehensive and far-reaching approach to their implementation.

It is suggested that this series of packets which is designed for a program of music appreciation in the elementary grade be extended to include a series for the junior high and high school curricula. In short a comprehensive music appreciation program which would apply to and could be tailored to fulfill the requirements of a specific educational system based upon the concepts developed for the elementary grades is recommended.

Tape Recorded Units to Reinforce Correct Intonation, Pitch, and Rhythm in Beginning Instrumental Students Using the "Tune-a-Day" Method Book.

developed by

James Donald Amirault
Oliver Ames High School
North Easton, Mass.

OBJECTIVES:

1. To allow the student to reinforce the correct intonation, pitch, and rhythm.
2. To allow the student to obtain aid in overcoming problems of intonation, pitch, and rhythm while the instrumental music specialist is not available in the building.

EQUIPTMENT

1. Tape Recorder
2. Music Stand
3. Tune-a-Day Book

DESCRIPTION:

Each tape is labeled for the instrument performing and each page and exercise is announced on the tape and suggestions for better understanding of each problem are made. Each exercise is played for the student, then time is allowed after the cue...ALL SET...to hear the correct starting note by letter name and pitch. The tempo is established by the play cue...ONE,TWO,READY, PLAY, which will indicate that the student is to play the exercise.

A counter guide number is included to facilitate approximate location of each page and exercise.

DEVELOPMENT AND HISTORY OF USE:

The need for a means of facilitating individual corrections in a class lesson while the lesson was going on and the need for some means of reinforcing correct intonation, pitch, and rhythm led the author to develop these tapes. With the visit of the instrumental music specialist only once a week, it was felt that if the student needed assistance or reassurance between visits, there would be an opportunity to use these tapes.

With these thoughts in mind, the author started this project from a teacher-oriented point of view and specifically not as prime presentation lessons of and by themselves. After securing permission of the copyright holders, Boston Music Co., a dialogue was written as an auxillary aid to the "Tune-a-Day" method. After much refining, editing, and correcting, the actual taping took place with the author narrating and an instrumentalist performing each exercise. The Master taping was done in stereo at 7.5 I.P.S. on a Sony Sony-Matic Tape Recorder and then reduced to 3.75 I.P.S. monaural for easier use in the school systems and to allow each instrument to be on a single tape.

Each lesson would be taught by the instrumental music specialist and then on the next class visit these tapes would be used as a review of the previous lesson while the teacher could make individual corrections during the class before proceeding to the next lesson. By this time the thought had occured that older students could use them as individual beginning lessons.

In the fall of 1967, these tapes were used by three different instrumental music specialists in different schools; two in Easton and one in Winchendon. Insomuch as the tapes dealt with the first few lessons, they were used mostly during the early fall in the beginning instrumental programs. It was also used at a higher level in groupings of unlike instruments, with tape recorders going at different stations permitting a single instructor to present more than one lesson at a time. This was found to be a most valid use of the tapes even though it was not the original intent of their production.

EVALUATION:

The tapes were mostly used during the early fall of 1967 as part of the instrumental instruction program and there did not seem to be any problem in getting facilities for their use. These tapes become self-explanatory to the students and in some cases they were able to use the tapes on their own.

There were no valid comparison tests made of the groups to see if their performance was enhanced by the tapes but in all cases the specialists felt that the tapes served as an aid for teaching efficiency.

The terminology of the narrator was not a problem since it was explained to the teachers and students in the teachers guides. It was agreed by all the instrumental music specialists that tapes were the proper media for this project; however, it was felt that they stopped too quickly and that more lessons, perhaps the entire book should be done this way.

IMPLICATION FOR FURTHER DEVELOPMENT AND STUDY:

The implication from the very subjective evaluation leads to the assumption that a completely self-contained prime presentation method for beginning students could be evolved.

UNITS DEVELOPED AS PART OF THIS PROJECT:

Flute
Clarinet
Saxophone
Trumpet
French Horn
Trombone
Baritone
Tuba

AN ADAPTATION TO THE SYSTEMS APPROACH OF "TAPE RECORDED UNITS TO REINFORCE CORRECT INTONATION, PITCH AND RHYTHM IN THE BEGINNING INSTRUMENTAL STUDENTS - USING THE "TUNE-A-DAY" METHOD BOOK."

developed by

James D. Amirault
Oliver Ames High School
North Easton, Massachusetts

It was the collective decision of the project staff to offer implications for further development by doing a hypothetical application of an instructional systems approach with a portion of a selected packet of material from each level. The decision came as a result of our recent awareness of instructional systems analysis as embodying in the most inclusive manner possible the meaning of technology for education.

I. SELECTION: In choosing the packet most adaptable to the systems analysis approach, the following criteria were considered. The packet should be:

1. learner oriented (rather than teacher oriented).
2. primarily in the cognitive domain, because cognitive learnings are more accurately measured.
3. able to provide adequately for individualized instruction.
4. able to lend itself easily to criterion testing.
5. adaptable to several modes of presentation and response.
6. based on definite sequenced behavior.
7. structured to provide for immediate evaluation and reinforcement of the learner.
8. designed to offer possibilities for alternative branching procedures.
9. designed to be completed within a definite time period and with a measurable rate of learning efficiency.

The "Tape Recorded Units" as developed by Mr. Amirault consists of eight tapes (one per instrument) that were to serve as efficiency aids to an instrumental music specialist. They were not designed as prime presentation methods in and of themselves but could very easily be adapted to self contained units.

II. The following is a hypothetical application of a portion of one unit as it could be developed to a system approach.

GENERAL GOAL: to develop music literacy

SPECIFIC GOAL: performance of simple melodies on the trumpet

ENTRY BEHAVIOR: knowledge of whole notes, half notes, quarter notes, whole rests, half rests, quarter rests, tied notes, staff, treble clef, bar lines, measure, meter (4/4), repeat marks, and leger lines.

TASKS:

1. Assembly of instrument
2. Correct playing position
3. Second line G from the printed symbol
4. Articulation
5. Rhythmic variation - quarter note, quarter rest, half note, half rest
6. First space F from the printed symbol

BEHAVIORAL OBJECTIVE:

To perform a series of simple melodies using F and G in quarter notes, half notes with quarter rests and half rests with one repetition with an error factor of no more than 2 errors per exercise with MM ♩ =60.

LEARNING SEQUENCES:

1 (a) placing the mouthpiece into the lead pipe of the instrument by demonstration and repeat one time

2 (a) correct playing position by demonstration and repeat one time

3 (a) breathing and production of tone
(b) production of second line G
(c) correlate sound of G with second line G on the staff

4 (a) articulate a series of half notes with half rests using the tone second line G
(b) articulate a series of half notes without rests using the tone second line G

5 (a) articulate a series of quarter notes with quarter rests using the tone second line G
(b) articulate a series of quarter notes without rests using the tone second line G
(c) articulate a series of half notes and quarter notes without rests using the tone second line G

6 (a) articulate a series of half notes with half rests using the tone first space F

(b) articulate a series of half notes without rests using the tone first space F
(c) articulate a series of quarter notes with quarter rests using the tone first space F
(d) articulate a series of quarter notes without rests using the tone first space F
(e) articulate a series of half notes and quarter notes without rests using the tone first space F

CRITERION TEST:

Articulate a series of quarter notes and half notes with quarter rests and half rests using the tones of first space F and second line G.

III. INTERPRETATION:

ANALYSIS OF OBJECTIVE:

The skills required to perform this objective lie primarily within the nature of the cognitive domain - being placed between knowledge of specific facts and comprehension and translation.

PRESENTATION MODE:

The packet as it now exists, presents the material by means of teacher instruction, method book and narrated tape recording. The possibilities of using sound film loop with provisions for recording learner response on tape should be investigated. Periodic seminars could be used to further learning efficiency when needed.

EVALUA TION:

Periodic evaluation of learner response would measure the readiness for proceeding to the next learning sequence. Analysis of the criterion test based on the behavioral objectives would indicate if further reinforcement or refinement were needed. Close observation would then lead to continual modification based on the learner's needs.

FUNDAMENTALS OF ELEMENTARY MUSIC READING

developed by

Evelyn Marie Brandes
Swampscott Public Schools
Swampscott, Massachusetts

OBJECTIVES

General: To teach music reading.

Specific:
1. To establish the beat as a unit of measure.
2. To use the beat to measure both duration of sound and silence as represented by quarter notes, quarter rests, and eighth notes.
3. To acquaint the students with a form of notation.
4. To elicit from the student an independent rhythmic response to both aural and visual stimuli.
5. To develop oral and written rhythmic creativity.
6. To gain an understanding that rhythm is everywhere.
7. To develop a feeling of beat.
8. To learn to feel the accent of beats.
9. To learn to feel the rhythmic patterns of a song or rhyme.
10. To learn to feel a phrase.
11. To develop the ability to respond to the beat, meter, accent, rhythmic pattern and phrase by clapping, stepping, walking, and tapping the knees.
12. To gain a knowledge of sound direction, i.e. high, low, and same.
13. To develop an understanding that the G clef circles the second line, thus naming it G.
14. To develop a sense of tonal memory.
15. To develop the ability to follow notation on a staff.
16. To develop the ability to sing stepwise, repeats and returns from notation.
17. To gain musical independence.
18. To develop an understanding that there is a direct relationship between the key signature and do.
19. To develop the ability to find do in sharps and flats.
20. To gain an understanding of the following concepts:
    Combinations of like and unlike phrases create form in music.
    Two part form (A-B) implies a statement and a contrast.
    Three part form (A-B-A) implies a statement, a contrast, and a repetition of the statement.

Like symbols such as A and A, are used to represent the repetition of phrases which sound alike.
Two or more different tones sounded together make harmony.
A chord is three or more different tones sounded simultaneously.
The C chord is a three-tone chord built on C.
The C chord is represented by a line, line, line skip.
Melody is a succession of tones.
Melody may go up, down, or straight across.
A song is a combination of phrases that are alike or different.
Melody moves up and down by steps and skips.
Melody is organized in relation to a home tone which is do in the song.

EQUIPMENT REQUIRED FOR USING PACKET

Overhead projector, projectuals, pointer, screen, tape recorder and prepared tapes.

DESCRIPTION OF PACKET MATERIALS

AN INTRODUCTION TO RHYTHM

Included is a tape of musical examples which are to be used in conjunction with the guide to introduce the feeling of rhythm. This unit has been used in grades one and two.

AN INTRODUCTION TO RHYTHMIC NOTATION

Included are projectuals showing motion, graphic representations of sound and silence, relationship of quarters and eighths, and rhythm rounds.

FINDING DO IN SHARPS AND FLATS

Included are four projectuals: 1- picturing a sharp, flat, natural, and a hold; 2- contains six sharp key signatures; 3- contains six flat key signatures; 4- blank projectual.

BEGINNING MUSIC READING

Included are twenty projectuals: Pre-scale songs, scale directional aids and a series of repeats, returns and repeats and returns.

PRIMARY-MELODY-HARMONY-FORM

Included are twelve projectuals, three of which deal with concepts of form, four with harmony, and five with concepts of melody. Most all of the projectuals contain color overlays; one includes a transparent puzzle.

HISTORY OF DEVELOPMENT AND USE

In many schools the classroom teacher is an important factor in the music education of students. She or he continues the music lesson during the periods between the music teacher's visits. Consideration of the classroom teacher's role in music education was important in the selection and development of this unit.

Concerning the development of non-book materials, it was proposed that : Any prepared materials would eliminate unnecessary duplication of board work and save classroom time; standardize the approach and presentation of a lesson and serve to reinforce the classroom teacher's understanding of music as many classroom teachers have had little or no experience in teaching music; improve and facilitate the instruction of music; and improve pupil and classroom teacher attitudes toward music.

Music reading was chosen as the area in which prepared materials would be the most effective as the process involves concepts and skills which are readily adaptable tp various modes of presentation. Rhythmic response, tonal expectation, interpretation of music symbols, and structural analysis were treated in five individual packets. These particular concepts and skills were chosen because of their significance in reading music.

During the summer of 1966 a unit was developed dealing with music reading readiness and tonal expectation. The unit was designed to prepare the students to read the pitch of tonal notation. Two units were developed to prepare the students to read rhythmic notation. The first unit deals with rhythmic readiness and the second with notation of rhythm. One further step concerning finding do in sharps and flats was completed in the first summer session.

During the school year 1966-1967 two of the four units were used by the music teacher only. Each classroom teacher was extremely interested in the media--and favorably impressed by the organization of the theory lessons. The classroom teachers were anxious to use the materials and would have if more copies were available.

The second summer session was devoted to revising the structure of several transparencies from BEGINNING MUSIC READING, adding additional material to AN INTRODUCTION TO RHYTHMIC NOTATION, rewriting parts of the study guides, and developing one new unit: PRIMARY-MELODY-HARMONY-FORM.

All of the five units were used during the school year 1967-1968. The first four units were used by both the music teacher and the classroom teachers. PRIMARY-MELODY-HARMONY-FORM was used only by the music teacher. Approximately sixteen primary and intermediate classes and teachers were exposed to the materials.

EVALUATION AND USE

In light of the purpose of the project which is to improve and facilitate the instruction of music theory, the materials have been successful. In classrooms in which the overhead projector and tape recorder were set up prior to the music lesson, more time was available for further instruction than in classrooms in which the equipment was set up during the lesson time. However, the children were so highly motivated by the design and color of the projectuals that the media was valuable in both circumstances. Students often asked to use the projectuals to read rhythmic and tonal notation. Classes who used the prepared materials can read better than the classes who did not use them.

The materials have served to standardize the approach and presentation of music theory. Terms such as time signature, phrase, and beat are clearly explained and exemplified in the study guides. The guides also helped classroom teachers of varying backgrounds and at different educational levels to present music theory consistently.

Classroom teachers displayed favorable attitudes toward the new approach to theory. They appreciated the organization of the materials and expressed a desire to use them in their follow-up lessons.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

Recent study has revealed the potential for further development of the materials as they now exist. Following is a list of suggestions as to how this could be undertaken:

1. Certain projectuals could be redesigned to stimulate more specific outcomes as stated in the objectives. Additional projectuals should be included in each unit to reinforce these outcomes.

2. In light of Robert Mager's definition of instructional objectives, the objectives for the unit should be rewritten to include more specific behavioral outcomes.

3. The materials as developed, used and evaluated cover a minimum of basic essentials to the process of learning to read music. A sequenced program of instruction could be developed by the creation of additional materials.

4. The materials are easily adapted to other modes of presentation and should be to further individualize instruction.

5. The program through the systems analysis approach may be further learner oriented rather than teacher directed.

JUNIOR HIGH LEVEL PREFACE

As a group we represented rather diverse philosophic points of view and experience. Because of this diversity interaction at times was intense but valuable and constructive.

As none of us had ever used an overhead projector prior to this project, we found ourselves depending upon one another for encouragement and assistance! We constantly exchanged ideas on how to translate a concept into the visual form of a projectual. One issue was whether to use a sliding track or an overlay. The overlay was preferable in Mrs. Amelotte's case as she could show the melodic relationships of the treble and bass staffs. Conversely, changes in measure signature and rhythm patterns were best illustrated by use of the sliding track in Mr. Metcalf's packet.

Study guides proved to be a thorny problem. Communal reading of one another's study guide helped to clarify direction of intent, and hone those difficult objectives.

Constant evaluation of and revision within the group level were the result of familiarity with one another's work. Level meetings provided an opportunity to test the practicality of materials and technique. These meetings also provided opportunities to experiment with presentation techniques of manipulating the media while teaching.

ANALYSIS OF THE FORM OF BARTOK'S FOURTH STRING QUARTET

developed by

Sheila R. Reid
Lincoln Public Schools
Lincoln, Massachusetts

I. OBJECTIVES

A. General:

1. Students should become familiar with an important contemporary composition.

2. Students should develop skill in listening for something specific in the music.

3. The student should be able to read a musical score with some understanding of its motivic structure.

B. Specific: B artok has demonstrated a concern for interrelationships among the movements af a work.

1. One function of the motives in Bartok's Fourth String Quartet is to construct a totally symmetrical form. (The first movement is related by motif to the fifth movement, the second to the fourth. The third is the fulcrum of the entire structure.)

2. The second function of the motives is to create a linear trend in the work. This trend is the progressive enlargement of the intervals used in the motives. (The minor second pattern of the first movement..... to the interval of a major third in the last movement.)

3. Analysis of the double function of these motives can serve to make explicit how these compositional techniques create a complex, artistic effect.

II. EQUIPMENT REQUIRED FOR USING PACKET

An overhead projector with a horizontal roll attachment, a tape recorder, Orff instruments (or other chromatic mallet-struck instruments) rhythm instruments, a pointer, a water-soluble marking pen or pencil, and a screen.

III. DESCRIPTION OF PACKET MAT ERIALS

There are three sections of study involving overhead projectuals to be used with a taped narration. Within each section are projectuals for instrumental class performance. These sections are interspersed with taped performance of the Fourth String Quartet to be heard in conjunction with the music score on a continuous roll of acetate for overhead projection. A study guide for the teacher is included which contains not only objectives and specific directions for use, but also a narrator's script of the narrated tape recording.

IV. HISTORY OF DEVELOPMENT AND USE

The original concept of this packet was to create a sequentially developed set of materials designed to make clear Bartok's beautiful concept of form in his Fourth String Quartet. Since this is the most sophisticated kind of analysis work my eighth graders experience, I felt effective use of the overhead projector and narrated tape would clarify concepts and provide variety in presentation.

One idea I developed was to try to correlate the chromatic color chart with the chromatic scale (the motive of the second movement), and similarly a primary color chart with a diatonic scale. Then I qualified the diatonic scale idea insofar as the related fourth movement is in the mixolydian mode. (The chromatic or diatonic scale was the framed static and the color chart served as the overlay.)

By the end of the summer of 1966 I realized color could be even more meaningful. Since the movements of the quartet are motivically related...why not color related as well? Therefore, I revised my packet so that everything related to the first or fifth movements, for an example, were done consistently in one color (red). The intention is for the student to subconciously (or conciously) make the correlation between the two movements in yet another way.

In using the Bartok packet during the school year 1966-1967 with my students I found the color correlation of movements was very helpful to them. The color chart-scale correlation was highly unsuccessful however. Students found this very confusing. (I suspected this might be true, but felt it was worth trying in the interests of pure research, per se.)

The other revision that became obviously necessary was further enlargement of the score on roll. Legibility was a problem as two pages of score on the stage of the projector at a time made the staves much too small. Therefore enlargement to "one page a stage" was "de rigeur." Therefore, the following summer of 1967 the revisions of enlargement of score and deletion of the color-scale correlation were made. (The diatonic scale as an interim step was also deleted.)

During the school year 1967-1968 the revised materials were used, with all six of my eighth grade classes with greater success than the previous year. In general, the students did enjoy the packet of materials. Playing their performances of the motives of the movements on the Orff instruments and their hearing the performance tape recording of the movements were most meaningful.

V. EVALUATION RESULTS

1. The packet has been used successfully with my six eighth grade classes in a sophisticated suburban town (Lincoln, Mass.). The slower classes did not find the material beyond their grasp. In fact, they particularly enjoyed the class performance of the motives. Score reading was the most difficult aspect for them.

2. Mr. Dwight Killam also used the Bartok packet with two high school Music Appreciation classes in Wilbraham, Mass. Generally, Mr. Killam evaluated the packet as a successful experience for his low-ability group. He thought that the instrumental performance definitely aided the understanding of Bartok's music. He felt the need for an additional projectual to illustrate the linear trend concept (I intend to make one).

3. All classes which used this packet found score reading a problem as such, compounded by the legibility factor. The basic technique of how to read a score in the most fundamental way is really a separate issue and not one of the objectives of this packet, therefore I prepared my classes for the Bartok packet by prefacing it with materials dealing with just this problem: Miss Sandi Kinyon's packet entitled An Introduction to Score Reading. This preparation made a significant difference in the greater ease with which the students handled the Bartok material (in the second year of classroom use). The students were then able to deal with such tasks as following a motif which "moves" from the cello part into the viola part, variations of the motif, etc.

4. In the final evaluation of the packet the issue best raised is: "Did the utilization of sequenced materials employing a multi-media approach result in more effective teaching, or not?" Because I did teach this quartet in a conventional way in previous years, utilizing a recording and blackboard I feel I've a basis for comparison. Though the comparison is a subjective one, the contrast is so sharply delineated a result that the issue seems to be a clear cut one in preference

to this packet.

The simple fact that scores can be reproduced on continuous film and shown on a screen in a normally lit room is a tremendous advantage. If twenty-five scores were passed out to the students to be followed while listening to a recording they would all be reading at twenty-five different places in their scores. (T heir skill in this task is still at the beginning stage.) By having the score on an overhead projector, the teacher insures all are looking at the correct measure at the correct time by doing two things: pointing to the measure, and looking up from the score occasionally to make sure all students have their attention focused on the screen. By having the score's image on the screen, greater in-depth teaching of compositional techniques is possible, really, for the first time. Writing out excerpts from the score on a blackboard is tedious, unclear and rather limiting.

This approach of using narrated tape and projectuals provides variety in presentation coupled with the greater active involvement of the students in the learning process. The students have questions to answer (on the tape) and lots of opportunities to learn about the music by playing the instruments. At other times students are listening to the composition while following the score. Sometimes it is a purely aural experience.

VI. IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

See section with the same title ("Implications for Further Development and Study") in preceding report entitled "Analysis of Stravinsky's Compositional Techniques in *L'Histoire du Soldat*."

"ANALYSIS OF STRAVINSKY'S COMPOSITIONAL TECHNIQUES IN L'HISTOIRE DU SOLDAT"

developed by

Mrs. Sheila R. Reid
Lincoln Public Schools
Lincoln, Mass.

I OBJECTIVES

A. General:

1. Students should become familiar with an attractive contemporary composition.
2. Students should develop skill in listening for something specific in the music.
3. In order to learn how to listen for something, the student should be given the opportunity to experience personally the concept (through speech patterns, songs, or instrumental activities).
4. Students should be able to read a score in order to identify motif variation.

B. Specific:

1. Students will perform syncopation and learn to identify it by sound and notation.
2. Students will identify the technique by which Stravinsky relates his music to the story content in this work.
3. The students will identify the technique by which Stravinsky plans his music with great care given even the smallest thematic detail as in the examples of motif variation in Music to Scene I and Music to Scene III.
4. L'Histoire du Soldat shows a definite jazz influence. Examples of ragtime style that Stravinsky might have been hearing in 1918 are compared with his "Ragtime" in this work.

II EQUIPMENT REQUIRED FOR USING PACKET

Equipment required includes an overhead projector with a horizontal roll attachment, tape recorder, Orff instruments (or other mallet-struck instruments), rhythm. instruments, a pointer, a water soluble pen or pencil, and a screen.

III DESCRIPTION OF PACKET MATERIALS

There are three sections of study involving projectuals to be used with a taped narration. Within these sections there are projectuals for class performance of speech patterns, a song, and instrumental insembles. These sections are interspersed with taped performance of L'Histoire du Soldat to be heard in conjunction with the score of the work on continuous rolls of acetate for overhead projection.

IV HISTORY OF DEVELOPMENT AND USE

Originally this packet was designed to present three different aspects of Stravinsky's compositional technique. The first aspect, syncopation, was conceived as a study of the rhythmic problem per se by use of speech patterns, followed by seeing and hearing similar examples in the context of Stravinsky's score.

Familiarity with the Orff approach prompted my choice of proverbs for the speech patterns. However, when using the packet with my eighth graders in 1967, I realized they had had so much Orff training that my use of proverbs seemed "babyish" to them. As a result, many were not fulfilling the objective because they thought it too easy to bother with...until they were tested!

As a result, during the following (1967) summer revision of this section of materials, I felt it imperative to change the wording of the rhythm. patterns. I selected sentences from the performance of the work as spoken in rhythm by the narrator. (Stravinsky indicates in the score the rhythm pattern for the narrator during the sections where he must speak in ensemble with the instruments). Thus the original example of "normal" rhythm (in contrast to syncopation).

"a STITCH in TIME SAVES NINE."

changed to:

"HERE'S a BOOK that's a-HEAD of the DATE."

V EVALUATION RESULTS

This packet has been successfully used with my six classes of eighth graders in a sophisticated suburban town (Lincoln, Massachusetts). Even low ability groups found the material interesting and not beyond their grasp. The story aspect of the work was particularly well suited to this age level and also to the high school classes who used the packet.

Miss Sandi Kinyon used this packet with her high school Music Major class in Lexington, Mass. Her class enjoyed the material but found the story a little long in proportion to the music content. They particularly liked the section on Jazz. Comparisons in orchestration and compositional technique were made with Stravinsky's Rite of Spring.

Mr. Dwight Killam also used the packet with his two high school Music Appreciation classes in Wilbraham, Mass. Mr. Killam felt class performance of speech patterns etc. were most beneficial for his low ability group. Pictures illustrating the story on projectuals helped a great deal. Score reading was a problem.

Indeed score reading was very difficult for all classes with the possible exception of Miss Kinyon's experienced Music Major class. Legibility of enlarged score was still a problem in large rooms to some extent. By prefacing this packet with one by Miss Kinyon entitled An Introduction to Score Reading on the simple mechanics of following various kinds of score, my classes were somewhat prepared to handle this.

In addition to the legibility factor, the problem of basic skill in score reading, there was a third difficulty. The score itself of L'Histoire du Soldat is a miniature score which means that when any instrumental part has many measures of rest, that line is omitted from the score until the instrument plays again, thus in a complex score like this one, the student sees a bracket of five staves on one page, and then the next page may have four staves bracketed. This is hard to follow for the inexperienced reader. As a result in the very fast tempi sections I often omitted score reading and made it a solely aural experience. This is not to say that students find score reading impossible, but rather they need extra time to become accustomed to this kind of score.

VI IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

1. In retrospect it becomes clear that any evaluation of materials is only as good as the objectives upon which it is based. Having recently been initiated to the wonders of Instructional Systems Design (and with it Behavioral Ob-

jectives) I am now aware of how critical well-constructed objectives really are to the success of the material. I am convinced that if some of my objectives were more accurately stated this would have been reflected in the learning behaviors and in more specific evaluation. As an example consider this objective:

> "Analysis of the double function of these motives can serve to make explicit how these compositional techniques create a complex, artistic effect."

An improved version might be:

> "The two motivic functions synthesize to create a complex artistic effect."*

2. The process of teaching material in the cognitive domain followed by aesthetic consideration in the affective domain is a progression easily adaptable to other packets of sequenced materials.

3. The concept of score analysis for elucidation of the composer's intent (presented in a sequenced format) is readily adaptable to the other musical compositions.

4. Use of score-on-roll lends itself to a variety of approaches to provide an in-depth study of the music in a class situation.

5. Opportunities for students to perform relevant music makes concepts clear by personal experience.

6. An effective means of adequately preparing students in the fundamentals of score reading in the future might be created by utilization of digital computer animation on a 16 mm. film. It is possible to film a page of score, and by means of digital computer, animate the melody line of the measure (or the entire measure) being heard. This animation would focus the viewer's attention most effectively. Moreover, I think the effect would be heightened by a continual "wipe out" of measures after they have been heard. This erasing of measures heard would force the viewer to concentrate on the measure being performed at the moment. Since this idea is purely hypothetical and doesn't exist as such to my knowledge, I may be permitted to coin the technique as "filmed score with wipe out animation".

* Objective taken from packet which follows entitled "Analysis of the Form of Bartok's Fourth String Quartet."

(Note how capitalization of words and syllables illustrates where to accent the beats).

The succeeding academic year (1968) proved the new sets of words to be much better. Students became curious about these sentences, especially when told of their origin, and interested in learning the material. They wanted to hear the performance tape which followed the syncopation section. For them the sentences were not only something to arouse curiosity, but part of Stravinsky's piece and thus to be taken seriously. Interestingly enough, this packet of material was also used in two high schools (1968) and the older students accepted the words in the same manner.

The second study section on motivic variation also required revision. In using the packet with my eighth graders in 1967 I found the need for additional projectuals to explain how to analyze a motif into its component parts. Thus the following summer I constructed projectuals to show the rhythm pattern and the interval pattern of the motif. (The motif of Music to Scene I is played on the violin on the tape recording to illustrate these projectuals). Then there is another "new" projectual which shows the motif (for reference purposes) and a variation of the motif which has its rhythm pattern and interval pattern written out separately. Use of color in this projectual helped to differentiate the motif (blue) from its variation (magenta) with components. In 1968 my classes had little difficulty with this problem and were able to go on to analyzing the nine variations outlined in color overlay in the score. They really enjoyed this!

Since score reading for analysis purposes was so important in this section on motivic variation, having two pages of score on one projectual was a real problem of legibility. The score was too small to read. The problem was accentuated by having the color overlays in very dark colors which made reading from a distance almost impossible. The next summer I revised this so as to have the score enlarged to one page per projectual frame with color overlays in pastels. The score on roll also needed enlargement in the same manner.

In one case I wanted to be able to make quick comparisons between the first page of Music to Scene I and the first page of Music to Scene III. In this case I hinged one enlarged page of score and its overlay (taped to the score) on the left side of the frame, and a similar pair on the right side of the frame. Within the frame was a clear static. The result was most efficient, as found in subsequent use.

The section on Jazz needed no revision. It integrated well with the section on syncopation, as could be anticipated.

MUSIC SKILLS RELATED TO THE BASS STAFF

developed by

Ruth Amelotte
Lancaster Public Schools
Lancaster, Massachusetts

OBJECTIVES

It is the purpose of this project to increase the student's musical knowledge by providing visual experiences which will more efficiently teach the following skills:

1. Reading music from the bass staff (translating from notation to performance).
2. Simple chordal arranging and harmonizing through an understanding of basic chords and their roots (tonic, dominant, dominant seventh, and subdominant).
3. Simple accompanying through an understanding of chording and chording instruments.

EQUIPMENT REQUIRED

Overhead projector; screen; pointer; grease marking pencil; piano or other instruments for demonstration and accompanying purposes; autoharp; projectuals for lessons being taught; study sheets and quizzes which accompany sets; tape recorder and tapes if desired for development of classroom tapes.

DESCRIPTION OF PACKET MATERIALS

The concept of using transparencies to teach bass staff related skills is developed by using a series of six "packets" of sequential visual experiences:

Set A - Introduction - Presentation and introduction to music notation on the bass staff - Grand Staff - Clef symbols - Range of human voices.

Set B - Treble Melody Set - Four melodies ranging from familiar to the more difficult presented on the treble staff and related to the bass staff by means of overlays.

Set C - Bass Melody Set - Melodies presented on the bass staff with the same melody on a treble staff overlay for checking and reinforcement - Sequential variation in degree of difficulty.

Set D - A set of four rounds notated on the bass staff sequentially arranged as to difficulty.

Set E - Chord and Scale Set - Introduction of chords and their roots. Use of Autoharp and chording instruments - Harmonizing by using the chord root.

Set F - Bass Harmony Set - Tone blends and singing with two and three parts in harmony - using both staffs.

Included in the sequence of materials are worksheets and quizzes to check the student's progress. A vocabulary list is also developed concurrently with the musical concepts.

HISTORY AND DEVELOPMENT OF USE

Time - Early summer of 1966 - After deciding that the project "Developing the Skill of Reading Music Notation on the Bass Staff." would be beneficial for the students of my system, I began to develop a series of sequential lessons to be taught using non-text-book media such as the overhead projector and transparencies. Using "Folk Songs," packets of the material (see previous section) would develop this skill from the known (Treble staff) to the unknown (Bass staff).

As the proposed packets of transparencies began to evolve, it became evident that an introduction was imperative and that other skills such as harmonizing and chording should be included. As a result, the title was changed to read "Music Skills Related to the Bass Staff" allowing for a broader area of development.

After much intensive struggling and agony over techniques (Does the felt tip pen do a better job than the drawing pen? Will this color project with clarity so that the lyrics can be easily read?), further struggle with study guides (Are my objectives clear? Can someone else use my material with understanding?), format of procedure (Should there be more treble staff visuals? Are they ready for chording? Should Set E contain more opportunities for harmonizing?), it was decided that the project should evolve as a functional one involving class participation and the opportunity for the development of demonstration tapes within the classroom.

Time - Fall of 1966 - The project was initiated in the 7th and 8th grades of the Lancaster, Mass. Public Schools. Students, already "screen oriented" gave their attention to the new procedure. Due to the nature of the material, ten or fifteen minutes of each music period was alloted to each transparency after the introduction Set A. All lessons were presented in a sequential manner with the previous visual being used as a means of review. Students kept notebooks containing worksheets, an accumulative vocabulary list and the results of programed quizes.

Time - Summer of 1967 - The experience of using the developed project brought out the fact that the method of reproducing lyrics on transparencies left much to be desired. In order to continue with my work an effective means of printing lyrics had to be developed. It was eventually accomplished by using the IBM typewriter and Ozalid carbon. The resulting lyrics could be easily read.

This period provided an opportunity for on the spot revision of materials. Corrections of notational errors on visuals, streamlining by deleting, and general improvement by replacing some transparencies was added to the important task of rewriting the study guide to improve its efficiency.

Time - Fall of 1967 - The revised material was taught in the seventh grade with less use in grade eight where it served as a reinforcement. Much time was spent in an attempt to evaluate the material which was used in homogeneous groupings. The evaluation was based on results of Quiz 1 and Quiz 2 but is not conclusive at this stage of development.

EVALUATION RESULTS

Testing results indicate that this teaching method is equally effective with a "High" intelligence group and one of "Average" intelligence within the limitations of Quiz 1 and Quiz 2 which encompass Sets A, B, and C. The following data on mean scores indicates a very close correlation:

Intelligence Quotient
A Group - 112.20
B Group - 104.40

Quiz 1
A Group - 81.00
B Group - 82.62

Quiz 2
A Group - 50.00
B Group - 51.04

Critical ratios were drawn up using the results of these quizzes. With the one percentile level of significance, as a measure, the ratio would have to be at least 2.576. On Quiz 1, the first group with a median of 82.20 and a sigma 12.30; the second group with a median of of 81.80 and a sigma of 12.50 produced a critical ratio of .40 which is insignificant.

On Quiz 2, group one's median was 54.80 and group two's 54.60. The sigma for one was 22.20 and for two - 22.35. Again the critical ratio indicates insignificance - .032.

There can be no conclusive results about this particular project experiment until it can be taught in other situations with perhaps a "control group" or with other media for the sake of comparison.

It must be stated, however, that the results indicate that the students are getting a good grasp of the material presented. Their performance in singing from the bass staff is constantly improving. The intangibles such as attitude, attention, interest, etc. are at a high point while this type of teaching is in progress.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

The assembling of specific materials into sets of sequential procedures is a valuable teaching technique because of the following:

1. It can be adapted to many modes of presentation.
2. Teachers can assemble packets of material and devise their own solutions to musical problems by developing their own "kits".
3. Having the desired material in one or more prepared sets is an efficient teaching method - a time saver after the initial assembling of material.
4. The material can be constantly revised and brought up to date without the expense of purchasing a new set of texts.
5. Many sources may be drawn from in order to gather material into one small functional package.

FINLANDIA
by
Jan Sibelius

developed by

Robert B. Cullen
Murdock Jr.-Sr. High School
Winchendon, Mass.

A. OBJECTIVES

1. To present a listening lesson designed to interest several levels of ability.
2. To present a listening lesson without delving into score reading.
3. To provide aural and visual association of the composers intent by means of musical themes and related pictures.
4. To acquaint the learner with some facts about the composer including style, nationalistic source of the composition, and the programmatic thought behind it.
5. To present a musical composition for a listening lesson in its entirety.
6. To encourage student participation in a listening lesson.

B. EQUIPMENT REQUIRED FOR USING PACKET

The equipment needed to present the listening lesson FINLANDIA and accomplish the above objectives should include an overhead projector, a tape recorder at 7 ½ i.p.s., a "carousel" slide projector or any magazine load type with a remote control-focus attachment. The room should be large enough to accomodate placement of the overhead and slide projectors so that the images are the same size on the screen.

C. DESCRIPTION OF PACKET MATERIAL

Included in the packet are projectuals that contain all the thematic material to be presented. It also contains projectuals giving titles, credits, and additional pictorial material. The 2x2 slides show the pictorial content of the lesson in its original colors. An audio-tape containing the dialogue and musical sequences is provided to assist the teacher in the presentation and allows the teacher more freedom to control the overhead and slide projector simultaneously. The study guide for the teacher includes all presentation sequences by means of a "cue" script and an indicated projection key for the materials.

D. HISTORY OF DEVELOPMENT AND USE

The original conception for this lesson was to be a companion study to the HARY JANOS SUITE by ZOLTAN KODALY as a continuance of the study of nationalistic music. Instead of duplicating the same presentation method for a different piece of music, I decided to build in a physical response for the students to insure that they could distinguish the thematics that connected the music to the story. The students were to raise their hands when they recognized their particular assigned theme.

The story created for this piece of music was an expansion on the basic characteristic of the piece, "Patriotism", or a feeling of nationalism. The process of development of the 2x2 slides and overhead projectuals corresponds with the process used in developing the "HARY JANOS SUITE".

In order to see if the objective of appealing to different levels of ability was going to be reached, the lesson was presented in the following class situations:

1. In the fifth and sixth grade this was used as an isolated listening lesson.
2. In the seventh and eighth grade general music class, this was used as a part of a study about nationalistic composers.
3. In the secondary level it was presented as a part of music history during a high school music elective course.

In the summer of 1967, a better and larger design of thematics was the major change, and all pictorial elements were changed from copies of related art works to special sketches drawn by an artist. These new sketches depicted the country of Finland clearly and created more nationalistic feeling.

Trials showed that in the presentation of this lesson, the students had to show a clear understanding for the correct theme in order to successfully perform the simple physical response of raising their hands.

In the presentation of the materials the teacher should remember that all pictorial material will be introduced by the 2x2 slide projector and the thematics by the overhead. It was found that a combination of both projectors could be useful in many facets of listening to the entire selection.

E EVALUATION RESULTS

The elementary students seemed to have been awed by the visual material and neglected to listen closely to the music. The high school listeners thought that some of the visual material was sufficient, however they were a little reticent about raising their hands for the physical response to the thematics.

This lesson had its greatest impact upon the junior high school students, where all the material seemed to create and hold their interest. It was used in two different school systems, and since both schools grouped by ability, the situations were fairly comparable. The general conclusions were:

1. All groups seemed to enjoy the format of this lesson since it was not very long and the number of thematics involved did not confuse the listening process.

2. The greatest reliance upon the physical response was in the middle ability groups. Most of the higher groups did not seem to need the physical response.

3. Having each theme played by a single instrument before hearing the orchestral passage was helpful to those students who have difficulty recognizing thematic sections.

4. An objective test was given in both schools. Most students were successful in dealing with the musical and pictorial aspects of the lesson.

5. Student interest was maintained and opened the way to a more detailed study of the composition, through recognition of themes and relation of story content to pictures.

F. IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

See the section entitled "IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY" in packet titled "HARY JANOS SUITE"

HARY JANOS SUITE by ZOLTAN KODALY

developed by

Robert B. Cullen
Murdock Junior-Senior High School
Winchendon, Massachusetts

OBJECTIVES

1. To present a listening lesson designed to stimulate interest on several levels of student ability.
2. To present a listening lesson without delving into score reading.
3. To provide an aural and visual association of the composer's intent by means of musical themes and related pictures.
4. To acquaint the learner with some facts about the composer, including style, nationalistic source of the composition, and the programmatic thought behind it.
5. To present a musical composition in its entirety for a listening lesson.

EQUIPMENT REQUIRED FOR USING PACKET

The equipment needed to present the HARY JANOS SUITE and accomplish the above objectives, should include an overhead projector, a tape recorder set at 7½ i.p.s., a "carousel" slide projector or any magazine loading type with a remote control-focus attachment. The room should be large enough to accomodate placement of the overhead and the slide projectors so that the images are the same size on the screen.

DESCRIPTION OF PACKET MATERIALS

Included in the packet are projectuals that contain all the thematic material to be presented. It also contains projectuals giving titles, credits, and additional pictoral material. The 2x2 slides show the pictoral content of the lesson in its original colors. An audiotape containing all the dialogue and musical sequences is provided to assist in the presentation and allows the teacher a little more freedom while controlling the slide and overhead projectors simultaneously. The study guide for the teacher includes all presentation sequences by means of a "cue" script and an indicated projection key for the materials.

HISTORY OF DEVELOPMENT AND USE

The idea of a multi-media approach to teaching a listening lesson was conceived when the student's lack of interest was quite obvious during a long listening lesson. If interest could be sustained by a variety of external stimuli, then perhaps the entire composition could be heard at one sitting with more comprehension.

While developing this lesson, it was found that the reproduction of colored pictorial material could be done efficiently by means of 2x2 slides. It was noted however, that if thematic material was on a 2x2 slide, the ability to guide the student's eye during the theme was not possible. I resolved this by making all the 2x2 slides pertinent to pictorial information, and put thematic material on projectuals.

Once the method of presentation had been refined to a point of the selection of the musical themes and basic pictorial concepts, it was then a matter of trial and error to create the proper size of the thematic images for the overhead projectuals.

The 2x2 slides were developed by photographing a set of origional colored pencil and ink drawings. Black 2x2 slides were used to mask out the slide projector's lamp on the viewing screen when not in use. After some consideration, it was found that more thematics and pictures were needed in order that there would always be some material (whether 2x2 or overhead transparencies) on the screen at all times. An attempt was made to employ "hand-made" 2x2 slides with bits of colored cellulose, during a part of the music that did not adhere closely to the story. These abstracts were eliminated and additional thematics and pictures were used.

The lesson was enhanced by the addition of a short correlated playlet based on the story and recorded on an audio-tape by a group of high school students.

In order to see if the objective of appealing to different levels of ability was going to be reached, the lesson was presented in the following class situations:

1. In the fifth and sixth grade, this was used as an isolated listening lesson.

2. In the seventh and eighth grade general music classes, this was used as a part of a study of Nationalistic composers.

3. In the secondary level, it was presented as a part of music history during a high school music elective course.

In the summer of 1967 more thematic material was created and additional pictures were drawn by another artist. The final assembling and trials showed that in the presentation of the lesson, the teacher should remember that all pictorial information will be introduced by the slide projector, and all thematic material by the overhead projector. In further trials it was found that a combination of both projectors could be useful during the listening to the longer movements to sustain interest.

EVALUATION RESULTS

The elementary students seemed to have been awed by all the visuals and neglected to listen closely to the music. The high school listeners thought that some of the visual material was superfluous.

This lesson was used primarily as part of a general music course in the junior high school in two different systems. Both schools grouped the students by ability, therefore the situations were fairly comparable. The general conclusions were:

1. All groups regardless of ability, seemed to enjoy the format of related pictures and thematics. However, at a later hearing, only the highest groups associated the thematics with the music as it was played.
2. Students of lower ability levels were uncertain of whether or not this was a learning situation, or for enjoyment. The thematics portion of the lesson did not seem as important as the pictures and story element.
3. In both schools a simple objective test was given on many of the facts in the story and related musical themes. The results were similar, a greater number of students being able to answer questions pertaining to the story-picture content than the recognition of the specific themes.
4. One problem is that this lesson is a complex one to present technically. The teacher must be well acquainted with the materials before using them.
5. Student interest was maintained and opened the way to a more detailed study of the composition, through recognition of themes and relation of story content to pictures.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

1. This lesson when used within a unit of study of Nationalistic composers could be one of several to be presented. By using the multi-media approach, the students attention could be focused on Nationalistic traits and tendencies.
2. In retrospect, if the objectives of this lesson were stated behaviorally when this lesson was designed, and required definite responses, results could have been more easily observed and measured. This is the original objective:

> "To provide an aural and visual association of the composer's intent by means of musical themes and related pictures."

An improved version:

> "Given a set of musical themes and related pictures for the HARY JANOS SUITE by ZOLTAN KODALY, the student will identify by number, the proper picture with the theme as it is heard. A time limit of 10 seconds will be given after each theme ends and before the next selection is played."

3. Some of the skills of meaningful music listening lie within the "affective domain" of learning. However through the "systems analysis" approach, some of the "cognitive" aspects may be brought fore. These aspects are:
    a. The recognition of story content through related pictures when dealing with "program" music.
    b. The identification of style and composers.
    c. The identification of sounds of various musical instruments.

UNDERSTANDING AND READING RHYTHM THROUGH RESPONSE AND PERFORMANCE: A SUPPLEMENT TO GENERAL MUSIC CLASSROOM ACTIVITIES

developed by

Ralph A. Metcalf
Shrewsbury High School
Shrewsbury, Massachusetts

OBJECTIVES:

General:

1. To read from rhythmic notation.
2. To perform rhythms, individually and in groups, on percussion instruments.
3. To have a rhythmic "feeling" in physical responses.
4. To form a basis for learning all rhythm problems.
5. To have a conciousness of musical phrase.

Specific:

1. To compare the duration of half notes and eighth notes to quarter notes through speech pattern association, physically, orally and visually.
2. To learn eighth, quarter, half, dotted-half, and whole notes through use and recognition.
3. To match sounds with notation.
4. To learn a system of counting and deciphering rhythmic notation.
5. To write rhythmic notation through dictation.
6. To solve new rhythm problems by measuring them against beat.
7. To teach the concept of rest in music.
8. To play from a percussion score.
9. To perform rhythmic accompaniments to song material.
10. To teach the function of measures and measure signatures.

EQUIPMENT REQUIRED FOR USING PACKET:

1. Overhead projector
2. Screen
3. Tape recorder
4. Rhythm instruments: snare drum, tambourine, bongo drums, or others as available.
5. Water soluble pens or pencils.
6. Pointer, six to ten inches long.

DESCRIPTION OF PACKET MATERIALS:

Materials included:

1. Audio tape containing narration and rhythmic dictations.
2. Twenty-two overhead projector transparencies with overlays attached when necessary.
3. Study guide.

The taped narration is intended as an introduction to this unit on rhythm. The terms "beat" and "rhythm" are discussed and illustrated. Following this is a series of seven rhythm dictations, each of which contains from four to eight rhythms in order of increasing difficulty.

The sequence of transparencies develops rhythmic skills systematically. The learner starts from a point where no previous skills are required to a point where he has demonstrable skill in reading and performing rhythmic notation.

The study guide describes in detail the activities which take place with each transparency. Also included in the study guide are: (1) follow-up activities, (2) sample study sheet, (3) and tape script.

HISTORY OF DEVELOPMENT AND USE

The major task after conceiving the subject matter and approach to be taken, was the proper sequencing of information onto transparencies. The sequence of rough masters was constantly evaluated and changed over a period of three weeks, until the most successful sequence was found.

While this packet was in production stages, a second packet, without tape, was being designed as a sequel to the first. (This, as seen below, was eventually combined with the first packet. Both will be discussed as one from now on.) Both packets, from the fourth week, were worked on and revised simultaneously.

The making of the transparency masters involved much trial and error. Lettering was the greatest problem. An I.B.M. "Pre-Primer" Typewriter was used to letter the first masters; however, after the masters were processed into transparencies and viewed on the screen, the lettering was found to be too thin to be seen clearly. Phototype was then tried, with excellent results. It was a very tedious and time-consuming process to set up the type, however. Finally, an electric I.B.M. "Executive" Typewriter was used; this type was clear, easily seen from a distance, and very easy to use.

A study guide was written for each packet which included: (1) objectives, (2) general and specific procedures including tape cues followed by activities for each transparency, (3) a complete tape script.

In the Fall of 1966 both packets were presented to twelve divisions of sixth graders. The main revision resulting from this initial usage was the combining of the two packets.

When both packets were presented one directly after the other, the transition was logical and smooth. The reason for this easy transition was that the second packet was designed with prerequisites based on the objectives of the first. It was decided that combining both packets into one would make a more unified and complete learning unit.

The tape (accompanying the original first packet) included detailed narration and explanation which was found to be too complicated to synchronize with the materials in presentation. It was also found unnecessary, since the teacher, with proper understanding of the packet, could relate to the class the information included on the tape. The following summer, the major portion of the narration on the original tape was deleted and only the introduction was retained. To this introduction was added a series of dictations directly related to the materials in the packet.

In using the material, the technique of using a mask on certain transparencies was found valuable. Many children in low-ability groups would often look at the wrong part of a transparency which contained too much material. A mask guided their eyes to a specific portion of the transparency by simply covering up the part of the transparency with which they were not concerned.

During the Summer of 1967, masks were added to three transparencies and the majority of the masters of the transparencies were redone. The reason for redoing masters, in most cases, was to improve clarity of the image and neatness of the layout. "Rapidograph" Pens proved ideal for drawing notes, measure lines, clefs, etc.. The original masters were done with felt-tipped pens.

In the original packets, one complex transparency with two sliding overlays was used to demonstrate the function of measure signatures. It was suggested that this transparency contained too much material, and that two transparencies be designed to replace this one. One transparency was then designed to demonstrate the function of the top number of the measure signature, and another to demonstrate the function of the bottom number. These proved to be more effective when used in the fall.

The following changes and additions were made in the study guide: The objectives of both original packets were combined. Reference to tape cues was deleted and the description of activities for each transparency was improved. A piano accompaniment for "Dakota Hymn" was added. The tape script of the rhythm dictations was added.

In the Fall of 1967, the now unified packet was presented to fourteen homogeneous classes of sixth graders. Presentation was smoother than in the previous year since all errors were located and corrected. The modifications in the transparencies, tape and study guide mentioned above made the presentation easier and more effective.

EVALUATION RESULTS

During the first four months of the 1967 school year, the entire revised and refined packet was used. The enthusiasm and attention of each class in working with the packet was high. This was possibly due to the novelty of the mode of presentation. Probably its popularity was due to the way the subject matter was programmed for a logical, sequential and successful learning experience. Also, each member of the class was involved either in viewing the image of the material being discussed, or responding physically in related activities.

The use of prepared tape recorded dictations was intended to make rhythm dictations more systematic and formalized. The taped dictations were an improvement on "live" dictations since all chances of error in dictating were eliminated, consistency was also assured. The dictations proved to be a popular activity in this unit of study. A small percentage of the children disliked them when the difficulty increased, but most of the students showed a desire to do this activity even more than was intended.

It was found that the students should be given instruction in drawing notes. They must be able to draw notes quickly when taking dictations, and practice in doing this is necessary.

In light of its objectives the packet was moderately successful. The children were able to perform most rhythms given them. This was because of strong relationships between the various types of notes and their accompanying body movements and oral counts.

An unanticipated problem arose when children, who could successfully count and clap a rhythm, were asked to play it on a rhythm instrument. Many showed a lack of facility and dexterity when trying to manipulate a stick or mallet as an extension of their own body.

The system of counting as presented in the packet was clear and the children could successfully transfer the system to all rhythms encountered in material related and unrelated to the packet.

Two tests were given, one during the presentation period and one immediately following the presentation period. The overall results were good. In the case of the three highest ability groups almost everyone scored perfectly on questions based on the packet material. Of approximately 400 students, only four or five failed to show any understanding of the material. In each of these cases the student was in a low-ability group, which includes "slow learners", students with psychological problems and students with perceptual handicaps.

The final test of the year included a section where the students were asked to express ten to twelve rhythms in terms of the system of counting learned at the beginning of the year. The overall results demonstrated good retention of skills and knowledge in this aspect of the packet's objectives.

N.B. During the school year 1966-1967, Mrs. Ruth Amelotte of the Lancaster, Massachusetts Public Schools used the packet in part only. She used it in her seventh and eighth grade classes. Her use of the packet was limited because of a heavily constructed curriculum, and therefore was not able to make a complete evaluation. Mrs. Amelotte did say, however, that her classes enjoyed the activities of the packet.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

The materials for this unit of study might be expanded and modified in the following ways:

1. With the same basic format, more advanced rhythms could be introduced to make the packet more inclusive. Rhythms could be presented in compound mater and alla breve contexts. The skills learned from the packet would then be relevent to all music encountered by the learner.

2. The basic sequential format could be adapted to present the melodic aspect of music. A transitional approach could be through melodic percussion instruments.

3. Since this unit of study is primarily in the cognitive domain and is based on definite sequenced behaviors, it is felt that this packet could be reconstructed through instructional systems design. (See a portion of this packet hypothetically developed in this manner at the end of the Junior High School section of this booklet.)

A HYPOTHETICAL APPLICATION OF SYSTEMS ANALYSIS TO "UNDERSTANDING AND READING RHYTHM THROUGH RESPONSE AND PERFORMANCE"

developed by

Ralph Metcalf

I. INTRODUCTION

On the basis of the selected criteria Ralph Metcalf's Understanding and Reading Rhythm through Response and Performance was chosen. These materials were originally designed as a supplement to general music classroom activities. The following discussion represents an attempt to adapt a portion of the material to individual learning by the applications of systems analysis.

II. APPLICATIONS OF SYSTEM

GENERAL GOAL

To develop musical literacy.

SPECIFIC GOAL

To perform from rhythmic notation.

ENTRY BEHAVIOR

1. Student can find and clap a steady beat.
2. Student can clap by rote a given rhythmic pattern.

TASK

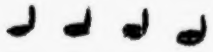
To perform from rhythmic notation using quarter, half, and eighth notes.

BEHAVIORAL OBJECTIVE

Given the system of counting, perform rhythmic notation using quarter, half, and eighth notes. The tempo will be set by four audible beats which will precede the students response (mm ♩= 60). Rate of efficiency is 90%.

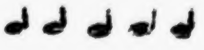
LEARNING SEQUENCE

a. Listen to and observe a rhythmic pattern of 4 sounds equal in duration and pitch.



1 2 3 4

b. Observe and count sounds of equal duration and pitch.

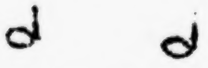
observe 

count - - - - -

observe

count - - -

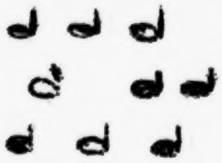
c. Listen to a pattern of two sounds equal to each other in duration and pitch but twice the duration of sound #1.



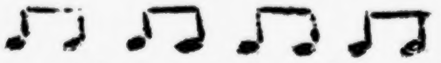
o one thre-ee

1- 3-

d. Given the following three rhythmic patterns count

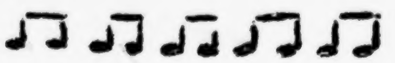


e. Listen to and observe a rhythmic pattern of eight sounds equal in duration and pitch.

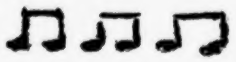


1 and 2 and 3 and 4 and

f. Observe and count sounds of equal duration and pitch.

observe 

count - - - - - - - - - -

observe 

count - - - - - -

III. INTERPRETATION

ANALYSIS OF OBJECTIVES

This program is primarily in the cognitive domain insofar as skills and facts are concerned. However, in the performance area, this program begins to have overtones of the affective domain.

In order to attain our specific goal, behavioral objectives should be written for the following tasks:

Correctly interpret the functions of each number of a measure signature.

To write from dictation rhythm patterns using various measure signatures.

PRESENTATION MODE

The presentation of the program takes the form of individualized learning followed by performance-oriented seminar. The digital computer with a visual attachment will show the example of musical notation. The student's oral response will be tape recorded. (Refer to Learning Sequences b, d, or f.) For self evaluation, the student will then hear the correct response on the tape recording. This will insure reinforcement of the proper response. An alternate mode of presentation would entail use of 2x2 slides in a learning lab with programed tape recording.

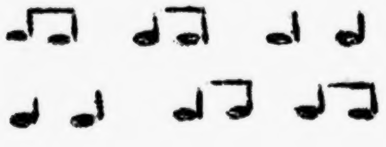
In the performance seminar which follows the individualized learnings, variety of activities will take place. During the seminar the skills learned in the individualized program will be applied through use of speech patterns, body movement and instrumental performance.

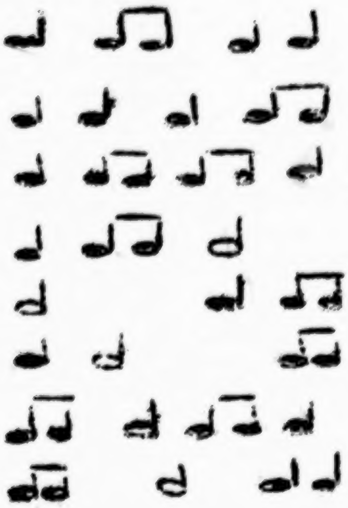
EVALUATION

Criterion tests will be given for each learning sequence to discover the extent of the student's mastery of the material.

CRITERION TEST

Given the following rhythmic patterns, count or write the counts with 90% efficiency.





After many students have used the program the success can then be evaluated and revisions made. Thus the sequence would be subject to continual modification based on learner behaviors.

The value of the total program is in the combination of individual and group activities. It is the combination of gradually sequenced skills followed by the performance seminar in which these skills will be used in a creative manner.

HIGH SCHOOL LEVEL PREFACE

Structuring the project by levels proved especially significant in that the dynamics of group interaction influenced development of individual materials at each stage. Indeed, the experience transcended individual concerns. At the end of the first summer, members of the high school level agreed to the following statement:

"The six week summer workshop has been a profound and positive influence on music education and on the individual participants. Far more even than the materials developed, the opportunity to challenge, explore, and debate basic issues and philosophies in music education was stimulating and enriching. Each of us is a better teacher because of this experience."

Analyzing the group experience leads to the conclusion that it was influential in four areas - challenging and stimulating philosophical discussion, expanding knowledge of musical, educational, and technological developments; analyzing pedagogical problems, and being specific in defining objectives, and evaluating technical quality and validity of the materials developed.

Experiences in developing new materials forced the participants to reconsider underlying philosophical beliefs. Creation of a sequence for teaching sight-singing raised questions as to the relative importance of achieving this skill. Development of materials to foster appreciation in students with little musical background led to discussion of the relative effects of heredity and environment on musical growth. Evaluation of certain visual approaches to teaching notation stimulated debate on the justification of attempting to teach musical concepts through non-musical approaches. Ultimately, discussion had to deal with fundamental questions concerning the nature of music and its status in life, society, and education.

Since three of the level packets were concerned to some extent with developing skill in music reading, considerable debate naturally arose concerning the many methodologies which have been proposed. Collectively, the group was aware of a considerable body of research and opinion, and sharing this knowledge definitely influenced development of the materials. Similar exchanges greatly assisted the group's study of relevant literature in evaluation design of learning sequences, and systems analysis.

Most practically, group members served each other by critiquing materials in development, pointing out ambiguities in explanation, inaccuracies of fact or performance, and weaknesses in design. Each of the individual packets benefited from specific suggestions for additions, changes, and deletions. The group thus offered a continuing laboratory environment for evaluating project development.

In summary, the participants agree that structuring for group interaction was one of the most valuable and s pects of the project.

RHYTHMIC AND MELODIC PERCEPTION FOR HIGH SCHOOL STUDENTS

developed by

Dwight Killam
Director of Music
Hampden-Wilbraham Regional School District

OBJECTIVES

Dictation is generally accepted as an essential part of musical training. However, the usual classroom practices are among the least efficient in music education. The problem of individual differences is serious in this respect. These materials, then, attempt to provide an improved method for developing skill in rhythmic and melodic perception for high school students. Specifically, they seek to

1. develop rhythmic and melodic perception to at least the same level of competence achieved by classroom drill,
2. provide a flexible method, appropriate to a wide range of individual differences,
3. remove the drill phase of dictation from the classroom, making time available for other desirable activities,
4. increase sensitivity to and discrimination of rhythmic and melodic elements in music.

EQUIPMENT NEEDED

These tapes were primarily designed for use in the learning lab equipped with multi-channel console. With this arrangement, music students may work with tapes individually or as a class. However, the tapes may be played on any playback equipment, monaural or stereo, which operates at 3 3/4 inches per second. They are therefore adaptable to use in a library listening center, individual study carral, music practice cublicle, or at home.

HISTORY OF DEVELOPMENT AND USE

This package of material was originally designed for use in connection with a full credit music major emphasizing the compositional approach. In a class meeting for a forty-five minute period daily, an average of ten minutes a day has been devoted to dictation. The present materials are intended to be used as supplementary drills for the purpose of reducing the amount of class time needed for this activity, and of providing for more individualized practice.

In its original format, the packet included four rhythmic tapes, each containing fifteen drill examples, and five test items. The learning sequence proceeds from items using only quarternotes in 4/4 time to rather complex exercises in various compound meters, introducing many unusual rhythmic figures. Melodic tapes were not complete in usable form at the end of the first summer.

The rhythm tapes were used during the following school year. The hoped-for availability of the learning lab did not materialize. Instead, tapes were used on recorders set up in the practice cubicles. A number of students borrowed the tapes for home use.

As a result of a year's experience with the material, a number of conclusions were reached as to its effectiveness and as to implications for its improvement:

1. Use of the tapes definitely improved instruction in three ways:
    a. material was adaptable to individual differences.
    b. all pupils appeared to learn dictation skills better than when taught by classroom drill. Pupils who used the tapes scored significantly better than those who did not.
    c. more time was available for other teaching activities.

2. There was a need to simplify and reduce rhythmic examples.

3. It appeared that rhythmic patterns were easier to hear when embodied in a melody.

4. A pitched instrument capable of controlling attacks and releases was required for rhythmic dictation. The bell and wood block used in recording were unsatisfactory.

5. Although use of the learning lab proved impractical, the basic concept of such use was not disproved.

6. The general scope and sequence of the program, and its physical design appeared satisfactory.

The packet was revised as suggested by the conclusions. Most of the rhythmic examples were discarded and replaced by a smaller number of easier ones. A French Horn and an electronic organ were used as sound sources. Melodic tapes were completed and edited.

During the second year, the entire class spent one full period each week using the material in the learning lab. Individual pupils worked with the tapes in music practice cubicles during and after school and at home on weekends and evenings. The materials were used in three additional schools as well.

Results were sufficiently positive to support the continuing use of the materials, with minor revisions. A detailed evaluation is presented in the following section.

EVALUATION

A portion of the packet was used with a music theory class at Minnechaug High School, Wilbrahem for approximately ten weeks of the school year 1966-67. There were nine students in the class, including first, second, and third year theory students. The revised packet was used with a first-year theory class of nineteen students at Minnechaug during the school year 1967-68. It was also used with a class of six first year theory students at Swampscott High School and with three individuals who desired but could not schedule music theory at Lexington High School.

At Minnechaug, the materials were used individually and in class during 1966-67. In 1967-68 they were used in the learning lab, in practice cubicles, and at home. At Lexington, the materials were used in a classroom by individuals, and at Swampscott they were used in a library listening room. Evaluation encompasses three areas - technical aspects, design of the learning sequence, and observed pupil behavior.

TECHNICAL ASPECTS

The materials have functioned satisfactorily in each environment, although each presented unique advantages and problems. The learning lab was subject to frequent mechanical failure. Limitations of its availability and the instructor's time prevented preparation of individual cartridges. However, the possibility of playing four different tapes simultaneously allowed some individual variation. Some pupils complained of discomfort from the headsets, and there was also a general attitude of distaste for the lab environment arising from previous experiences with foreign language instruction. Nevertheless, the majority of pupils were able to function successfully and on a more individualized basis than would have been possible in a conventional classroom situation.

The library listening situation functioned well in terms of individualizing instruction and mechanical operation. The one limitation was a rigid school policy on library use which required students to spend a predetermined amount of time (normally a full period) at a predetermined task. Often this time was too long for effective use of the material.

Individual use of the material in practice cubicles, classrooms, or at home appeared generally successful. Ambiguous instructions, incorrectly recorded examples became troublesome in these settings. A number of such errors were revealed, and corrections would be necessary, in order for the tapes to be generally useful.

Choice of the appropriate performing medium(s) presented a problem which has not been solved. Conditions under which the material was developed posed problems of obtaining consistently accurate performances. This problem could be solved by using professional musicians. The advantages of pitch uniformity and accurate duration afforded by the electric organ were offset by its unsatisfactory timbre. Criticism of monotonous tone color resulting from the use of so few instruments could be answered by recording each example on a different instrument. However, this procedure would introduce a new variable into the learning sequence with problematic results. An alternative solution, supported by learning theory, would recommend shorter periods of practice at frequent intervals.

The overall organization of tapes, answer sheets, and study guide was found generally satisfactory.

LEARNING SEQUENCE

Evaluation remains inconclusive because of the varied settings in which the material was used. At Minnechaug, nineteen students started the sequence. All students completed the two rhythmic units, three students continued through melody unit one, and seven students continued through melody unit two. At Lexington, three students started the sequence. One passed the pre-test and completed rhythm unit one and part of melody unit one. A second student completed both rhythm units, while a third student was unable to complete even rhythm Pre-one. At Swampscott six students started the sequence and all finished rhythm unit pre-one. One student completed part of rhythm unit one, two students completed rhythm unit one and part of melody unit one, while three students completed the sequence through melody unit one. (The succeeding melody units were unavailable). Generally students and instructors in all three places evaluated the material as difficult and felt that it progressed too rapidly. The pupils completing melody unit two experienced less difficulty with it than with melody unit one.

A number of tentative conclusions regarding the sequence are suggested:

1. There is probably a need to simplify the examples still further.

2. Melody unit four, progressing from chromatic to twelve-tone and atonal examples is probably superfluous, at least in a one year course.

3. It seems possible that improved physical conditions, coupled with some simplification of examples would permit the better students to complete melody unit three. (Diatonic melodies in all keys.)

4. The general pattern of three playings at thirty-second intervals followed by reading correct answers is satisfactory, in fact

superior to the pattern of some commercial programs.

5. The sequence of rhythmic examples followed by pentatonic and then diatonic melodic examples is satisfactory.

BEHAVIORAL OUTCOMES

Achievement of specific objectives outlined above was evaluated as follows by the three instructors using the packet.

1. It was unanimously agreed that the material develops rhythmic and melodic perception to a level of competence considerably superior to that achieved by classroom drill. Scores on a comparative test objectively supported this subjective opinion.

2. All teachers felt that the material provided for more flexibility than classroom drill in dealing with individual differences.

3. Use of the materials lessened class time devoted to dictation to some extent. It was the common experience that the materials as constructed did not generate pupil success or motivation without a degree of supervision and assistance from the teacher.

4. Subjectively, those who used the material believed that its use increased pupils sensitivity to and discrimination of rhythmic and melodic elements in music.

Probably the most positive evaluation of the material is the fact that the participants intend to continue using it.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

The packet has functioned well enough in differing situations to suggest that it is quite usable in its present form for high school theory classes. There is some reason to believe it would be usable by musically advanced junior high school pupils. On the other hand, it could be a practical aid to college freshman theory students. Its success in home use indicates that it could be easily and effectively adapted for use in a casette.

It appears possible and desirable to develop the packet as a self-contained teaching program. Thus designed, the material would lend itself to systems analysis as described in a subsequent section.

Experiences in using this material emphasize the need for further study of basic questions relating to the pedagogy of music theory and to the philosophy of music education. For example, is there in fact any positive correlation between developing skill in taking musical dictation and developing increased musical sensitivity and discrimination? Are there other skills whose achievement would contribute more directly? Is the ability to write music from dictation valuable for its own sake? Are there other sequences which would achieve the objective more efficiently? Should a sequence for developing skill in dictation emphasize diatonic materials, or should it aim at developing non-tonal hearing? Is the latter aim a realistic objective?

Finally, experiences with the material emphasized problems of acceptance of the concept of individual study. In each situation, difficulties arose in this connection - rigid library policies, overcrowded schedules of required classes, insecurity of teachers and pupils unfamiliar with the concept. One implication for future use of the material is surely the need to develop among educators a climate of acceptance for the idea of individual study and for the changes in traditional school practices which the concept implies.

CHORAL AIDS

developed by

Virginia Coffin
Westfield High School
Westfield, Massachusetts

OBJECTIVES

These sets are designed to give the choral director a quick, graphic way to illustrate during a rehearsal

1. how a composer uses signs and symbols to translate his music into sight and how the performer uses these signs to make music as close to the composer's concept as can be determined,
2. the basic concepts of good vocal production, tone quality, clear diction, and good enunciation,
3. the correlation of philosophy, history, science, art, and literature with the developments in music and how to recreate the music of a given period with sympathy and proper style.

EQUIPMENT

1. Overhead projector with an available screen or blank wall
2. File or other means of having projectuals at easy reach
3. Pointer, grease pencil or pen, blank staffs, acetate sheets

DESCRIPTION OF PACKET MATERIALS

The projectuals in this packet present a single concept within each frame or exposure. Some projectuals are equipped with masks, slides, and overlays. Many are single, colored statics. Set I contains 8 parts with 21 individual statics, Set II contains 6 parts with 10 individual statics, Set III contains 5 parts with 16 individual statics.

HISTORY OF DEVELOPMENT AND USE

These materials were developed to enable the conductor to spend less rehearsal time reteaching reading skills, to make more efficient use of time spent in teaching vocal technique, and to develop an understanding of the relationship between the arts in each historical period beginning with the Renaissance and to relate this understanding to the music being performed.

Use of these materials has been limited to a selected mixed choir of 20 and occasionally in large girls glee clubs. During the early part of the year Set I was used frequently to help review and strengthen the singer's ability to read octavo music. Later use was intermittent as the need arose and in accordance with the Set design. Set II was used to develop tone quality, to correct specific vocal problems, and as a reminder of vocal technique. Set III was used throughout the year to provide a framework of historical periods and trends to which students could relate information from courses in literature, science, philosophy, art and music.

EVALUATION RESULTS

Individual informal testing results of Set I with 15 pupils showed a marked improvement in reading skills. However, there were no facilities for a control group so the value of the projectuals themselves could not be reliably evaluated. No tests were available for Sets II and III and no testing was done in the large groups.

Subjective evaluation by the teacher continued to show positive results during the two years of use. Much time was saved by eliminating lengthy explanations and descriptions with visual presentations. This applied to both Sets I and II. However, some projectuals which were merely amplifications or examples were used infrequently or not at all during the second year (i.e. the rhythms in 2's, 3's, etc. and the score examples of stemming). Some projectuals though used infrequently were very useful (i.e. Latin pronunciation). Set III proved the most exciting for the pupils who are not offered a "humanities" type course at Westfield. They could begin to see the period characteristics permeating the various areas of historical development. Some refinement of these visuals is contemplated - mainly eliminating the references to people and events with which the college preparatory seniors were not familiar at the conclusion of their senior year. The value as expressed by the students' comments seemed to bear out the Set's objectives by providing a frame of reference for various pieces of information gathered during high school years. For these students the most meaningful reference was to the relation of a specific event with the general trend or style of its period. Then a correlation between areas could be found (i.e. between English and Music).

IMPLICATIONS FOR FURTHER DEVELOPMENT AND USE

This packet presents useful and basic facts for choral development. There is no progressive study guide or order of presentation, thus allowing each conductor to use the materials as they fit his situation and objectives. It is probable that a director will wish to supplement the sets with projectuals of his own.

Projectuals in this packet would be equally valuable in other music classes. Depending on the conductor or teacher, individual projectuals could be used effectively in theory, harmony, or listening courses on any grade level, in any age choral group, and with elementary classroom music, general music, or instrumental lessons.

UNDERSTANDING MUSIC THROUGH ANALYTIC LISTENING

developed by

Harold Fiske
Director of Music
Gardner High School
Gardner, Massachusetts

GENERAL OBJECTIVES

1. To explain the elements of music through a listening approach.

2. To build an understanding of the function of the parts of the musical elements within any style or period.

3. To build an understanding of the musical elements themselves within any style or period.

4. To build a listening repertoire of compositions of all styles of all periods.

5. To build enjoyment of music through understanding.

SPECIFIC OBJECTIVES

1. To explain the elements of music through what is heard rather than what is seen on paper.

2. To develop the skill of listening to what is heard rhythmically, melodically, harmonically in the music.

3. To teach rhythmic, melodic, harmonic elements through music itself (in a musical context) rather than through isolated drill.

4. To build a vocabulary of rhythmic, melodic, harmonic terms associated with a musical sound.

5. To develop skill in analyzing an unfamiliar musical composition in terms of the musical elements.

MATERIALS AND EQUIPMENT

1 tape entitled *Rhythm*
1 tape entitled *Melody*
1 set of 36 projectuals to accompany *Rhythm*
1 set of 42 projectuals to accompany *Melody*

1 set of 4 projectuals to accompany Harmony (tape not available)
1 four track stereo tape recorder
1 overhead projector
1 screen

DESCRIPTION OF MATERIALS

The material consists of a tape and set of projectuals entitled Rhythm and a tape and set of projectuals entitled Melody. The tapes begin with environmental sounds as examples of natural rhythmic motion or melodic motion familiar to the students. The basic parts of rhythm or melody are then considered before study of the more difficult parts. Each part of the musical element is defined and one or more musical excerpts are given as examples.

The projectuals accompanying the tape recording help to explain the musical example by illustrating the concept by means of a diagram, music notation, or a definition.

HISTORY OF DEVELOPMENT AND USE

The material has been used for two years at Gardner High School, Gardner, in a required freshman music class. Use of the material has also been made in elective courses at Minnechaug Regional High School in Wilbraham. In Gardner, because the class meets twice a week for one half a year, the complete materials have been used in four sets of classes. The classes are mixed homogeneously and the range of musical ability in each class varies considerably.

Originally a set of 2x2 slides was developed and intended for use instead of projectuals. However it was decided that because of the student's ability, the material would be covered by sections (rather than whole) and the use of the slides would be impractical in terms of equipment needed and operational procedure. In addition it was decided that the information contained on the slides was inadequate. The subsequent development of projectuals proved the flexibility and versatility of them over the slides. More information could be included on the projectuals and the handling ease in the classroom put their value above the slides.

With the first two sets of classes only the tapes were used. The material in each tape was covered in 3 to 4 sessions in the first set of classes. After being tested it was found the students had not learned the material as well as expected. For this reason, in the second set of classes more time was allowed for each part of the tape and more discussion and examples were given. The test results of this set of classes showed much improvement over the first set.

In the third and fourth set of classes projectuals accompanied the tapes and worksheets were used containing the vocabulary, definitions, and examples. With these classes the potential of the material began to be realized and with testing and informal evaluation it was found the students understood and were able to begin application of the vocabulary and concepts to music which was new to them.

EVALUATION RESULTS

At the conclusion of the fourth set of classes the following conclusions were made:

1. The use of the tape by sections (rather than in the complete form all at once) for classes with no real musical ability seemed to be necessary in terms of attention span and comprehension.
2. The use of the tape recording without the projectuals or slides was inadequate even though all the information contained on the projectuals is explained in the tape.
3. The projectuals contributed a great deal by allowing the students to visualize the concept as well as listen to it.
4. The use of projectuals has more potential and greater flexibility, control, and versatility than the use of 2x2 slides as visual presentation of the materials.
5. The musical elements analyzed in this way provides a useful vocabulary for students unacquainted with music terminology.
6. The material represents a basis for the understanding of music that can be applied to music classes of different types with students of varying abilities.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

The value of this material seems to be concerned with two aspects --the particular analytical approach taken and the media itself. Further work could be done in the analysis of harmony, form, and timbre, using this approach. Much more study could also be done in correlating the approach with the media. Could the overhead projector be used to even a greater advantage? Could better results be made with the actual taping technique such as utilizing recent developments of "sound on sound" recorders?

More study should be done in deciding if this analytical technique is a useful approach to music appreciation classes and whether use of the material in music theory or history classes or humanities classes would be helpful in giving students a vocabulary and a sound foundation for the understanding of music.

DEVELOPING SIGHT-SINGING SKILLS AS A CLASS ACTIVITY

developed by

Edward Thiebe
Teacher of Vocal Music
John J. Duggan Junior High
Springfield, Massachusetts

GENERAL OBJECTIVES:

1. To develop vocal music reading skills to the degree of reading elementary vocal music at sight within an open-classroom situation.
2. To develop the above skills through the use of the Pentatonic Scale.
3. To develop the above skills with the aid of the overhead projector.

SPECIFIC OBJECTIVES: (Rhythm)

To develop the ability of chanting at sight, using the neutral syllable of "loo", four measure rhythm patterns consisting of:

(1) whole notes, half notes, quarter notes, eighth notes, sixteenth notes and their rests within the measure signatures of 2-4, 3-4, 4-4.
(2) dotted quarter note followed by an eighth note - eighth note followed by a dotted quarter note - dotted eighth note followed by sixteenth note - sixteenth note followed by a dotted eighth note -

(Intervals)

To develop the ability of singing at sight, using "Sol-Fa" syllables, six measure phrases made up of the above note values, and consisting of the following tonal relationships:

do-re; do-la-sol; sol-do-re; la-do-re; do-re-mi; sol-la-do-re; la-do-re-mi; sol-la-do-re-mi; do-re-mi-sol; do-re-mi-sol-la; la-do-re-mi-sol-la; sol-la-do-re-mi-sol-la; sol-la-do-re-mi-fa-sol-la; la-ti-do-re-mi-fa-sol-la; do-re-mi-fa-sol-la-ti-do.

(Intonation)

To develop the ability of blending at sight, a voice part with another voice part as found in two-part singing.

EQUIPMENT

1. Overhead projector and screen
2. Marking pencil (for projectuals)
3. Projectuals (58 contained in packet)

DESCRIPTION OF PACKET MATERIALS

The material may be used at any grade level where the group has a need for the development of the above skills. The projectuals are to be considered as an aid to the teacher, and like all aids, their strength lies in the many ways they may be adapted to fit various class situations.

The material is divided into three basic units: Rhythm (9 projectuals), Interval (34 projectuals), Intonation (15 projectuals). The content within each unit is presented in a simple to complex sequential order. Each musical symbol and/or functional relationship between the symbols contained within the units, has (1) a "presentation" projectual; and, (2) a "drill" projectual.

HISTORY OF DEVELOPMENT AND USE

In the early developmental stage of this package, the basic intent was to develop programed material which would teach sight-singing skills within a learning laboratory situation. A secondary intent was to use the same material in a compared "open-classroom" situation. Because of scheduling and school plant limitations, the material was never used in the learning laboratory as planned. Thus, throughout the developmental and experimental stages of this packet, the material was developed for usage in the conventional "open-classroom".

During the first summer, the content to be covered was placed into three basic units: Rhythm, Pitch, and Intonation. Within each unit, the content was further defined and placed into simple to complex sequential frames. These frames were made into projectuals. Complementary tapes were made. The tapes provided aural stimuli and correct answers to the visually presented notational problems.

This material was then used in nine general music classes within grades 7, 8, 9. Each class utilized three different methods of presentation. Common to all three methods of presentation was the usage made of the overhead projector. (All visual stimuli were presented with the use of the overhead projector). The manipulated variables within the presentations were: (1) mode of reinforcement (providing correct answer); and,

(2) mode of pupil response (individual and/or within group).

Method One: 1. Visual presentation of stimuli (projectuals) - teacher directed. Aural presentation of stimuli and reinforcement - complementary tapes.

2. Response: Group (complete class).

Method Two: 1. Visual presentation of stimuli - teacher directed. Aural presentation of stimuli and reinforcement - teacher directed.

2. Response: Individual students within a group.

Method Three: 1. Visual presentation of stimuli - teacher directed. Aural presentation of stimuli and reinforcement - teacher directed.

2. Response: Group (complete class).

Since the results of the first year's limited experimentation indicated that the third method of presentation was the most effective, the second summer was spent revising the sequences and improving the quality of the projectuals. All tapes were discontinued and the packet's title was changed from "A Sight-Singing Program for the Learning Laboratory" to "Developing Sight-Singing Skills As A Class Activity".

During the second "teaching-year" the materials were used by an instructor other than the investigator.

EVALUATION

Informal experimental evidence indicated that these projectuals, together with the use of the overhead projector, are effective as teaching aids within an "open-classroom" situation where a limited amount of time is allecated for the direct teaching of "sight-singing" skills. At the end of the first "teaching-year", and after the third method of presentation as described above, the classes as a whole were able to "sight-sing" unfamiliar melodic lines present on the projectuals. These projectuals included the "criterion" pretest examples. This represented a tremendous rate of growth when one considers these same students were unable to sing any part of the exercises of the pretest at the beginning of the year.

It was found that the tapes which were used in the first method of presentation were not adequate for reinforcement in a class situation. This was due to the adverse affect of a relatively rapid rigid tempo of the tape in a class situation. It was found that the inherent value of the immediate two-step reinforcement concept found on the tape, could just as well be achieved by instructor comment without the use of the tape in the open class situation.

A second method in material usage to be explored was the usage of the materials by individuals within the open-classroom. Each student was asked to sing "teacher-selected" examples, individually, within the open-classroom. Student reaction to this situation, varied with the groups and individuals involved. It seemed students more familiar with music (chorus members, pianists etc.) accepted this procedure more readily than the majority of the students who were not familiar with these other musical activities. Most, if not all, of the students were uncomfortable with this teaching situation. This led to student resentment which ultimately affected student attitude toward music in general. After a trial period, this method of instruction was discontinued.

The final method of instruction involved using the examples found on the projectuals as a class activity. With the students' eyes being centered upon the examples found on the projectuals, the examples were discussed and sung by the entire class. The classes were encouraged to compete with one another.as to the progress through the program. This method of instruction proved to be the most successful way of using this material in an open-classroom. The student's attitude improved. Much more material was covered in less time (when compared to the other methods). Because of the speed in which the material could be pursued in this third method, the students began to sense accomplishment in reading notation which in turn served as a motivating factor.

The greatest advantage in using these projectuals (common to all three methods of presentation) was the ease in which the material could be presented. There was an efficient use made of class time since all of the students could focus quickly upon the musical problems which were under class discussion.

IMPLICATIONS

As stated, the basic intent at the beginning was to develop programed instructional material to be used in a learning laboratory situation. This goal was never realized due to plant limitations and rigid class scheduling. These restrictions limited the amount of research. While material was developed to fit the existing "conventional classroom" many questions remain unanswered.

It remains for further objective research to investigate the implication of the learning laboratory upon the development of music literacy skills. It is through such objectively controlled laboratory conditions that the inherent variables in the learning process may be isolated, manipulated, measured and evaluated. As knowledge of the teaching-learning process are accumulated and applied through such objectivity, a more efficient and effective curriculum will emerge. However, as implied above, provisions must be made in the existing school plants and scheduling for such experimentation.

AN APPLICATION OF SYSTEMS ANALYSIS
TO
RHYTHMIC AND MELODIC PERCEPTION
FOR HIGH SCHOOL STUDENTS

developed by

Dwight Killam
Director of Music
Hampden-Wilbraham Regional School District

It was the collective decision of the project staff to offer implications for further development by doing a hypothetical application of an instructional systems approach with a portion of a selected packet of material from each level. The decision came as a result of our recent awareness of instructional systems analysis as embodying in the most inclusive manner possible the meaning of technology in education.

I. INTRODUCTION

In choosing the packet most adaptable to the systems analysis approach, the following criteria were considered. The packet should be

1. learner oriented (rather than teacher oriented),
2. primarily in the cognitive domain, because cognitive learnings are more accurately evaluated,
3. able to provide adequately for individualized instruction,
4. able to lend itself easily to criterion testing,
5. adaptable to several modes of presentation and response,
6. based on definite sequenced behaviors,
7. structured to provide for immediate evaluation and reinforcement of the learner,
8. designed to offer possibilities for alternative branching procedures,
9. designed to be completed within a definite time period and with a measurable rate of learning efficiency.

On this basis, the sequence Rhythmic and Melodic Perception for High School Students, by Dwight Killam, was selected. This material as it exists is not a completely self-contained teaching program; the following discussion represents a development of its potential for systems analysis.

II. APPLICATION TO SYSTEMS

A. GENERAL GOAL: To develop musical literacy.

B. SPECIFIC GOAL: To develop the ability to write short musical phrases from dictation.

C. ENTRY BEHAVIOR:

1. The learner should be able to read and follow instructions of the following type:

   > After you have heard the exercise played through, write one quarter note for each sound that you heard. After the exercise has been played three times, the correct notes will be read, so that you may check your answer.

2. The learner should be able to operate a tape recorder as a listening device.

3. The learner should understand the concept of mensural notation to the extent of being able to notate quarter notes in common time, identifying measures by the correct placement of bar lines.

D. TASKS: To write from dictation

1. a series of quarter notes
2. a series of quarter notes interspersed with whole notes
3. a series of quarter notes interspersed with half notes
4. a series of quarter notes alternating with quarter rests differentiated from half notes.

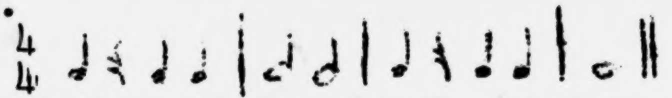
E. BEHAVIORAL OBJECTIVE:

To take from dictation a four measure phrase, using quarter notes, quarter rests, and half notes; with three playings at thirty-second intervals at a tempo of MM quarter = 72 with the efficiency of not more than one mistake per exercise.

F. LEARNING SEQUENCE:

Criterion Test PA. (Unit Pre-One, Test Item A).

The learner hears this played, and is instructed to write notation representing what he has heard as accurately as he can.



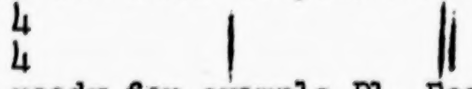
Instructions for Example P1. (Unit Pre-One, example No. 1)
(Presented on tape and in book.)

As you know, the lower number in the meter signature tells what kind of note gets one count. In 4/4, or Common Time, the quarter note (♩) gets one count. When the notes of the exercise are played through, write one quarter note for each sound that you heard. After the exercise has been played three times, the correct notes will be read, so that you can check your answers.

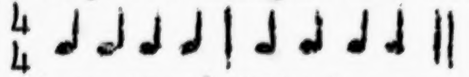
SAMPLE ANSWER BLANK

Example P1

Write the notes of your answer in these measure spaces:



Get ready for example P1. Ready, one, two, three, four,



(heard three times on tape)

(Heard on tape) "Check your answers for example P1. Quarter, quarter, quarter, quarter, (PAUSE) quarter, quarter, quarter, quarter."

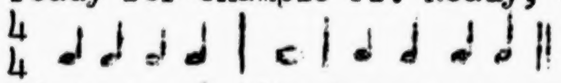
(On tape and in book)

Instructions for Example P2

If your answer for example P1 was correct, turn to example P2 in your book, and advance the tape to example P2 also. If your answer for example P1 was incorrect continue to read and listen. Each note which you write represents a unit of musical sound. Therefore each sound which you heard should be represented by one note on your answer sheet. Since eight sounds were produced, you should have eight notes on your sheet. Now go back to the last playing of example P1. Listen to it once more while you compare the sounds you hear with the notes you have written, then go on to example P2.

Rhythmic notation is a system of symbols used to show the length of tones relative to the note chosen as the beat unit (or one-count unit). In 4/4 time, the quarter note (♩) is the beat unit (in other words, it gets one count.) The whole note (𝅝) represents a length of time equal to four quarter notes. One whole note fills a measure in 4/4 time. When you listen to example P2, try to determine which tone is four times as long as the others. You will be given three chances to write the correct notes. When the correct answers are read compare them with your answer. If you are wrong about the position of the whole note, go over the example again.

Get ready for example P2. Ready, one, two, three, four,

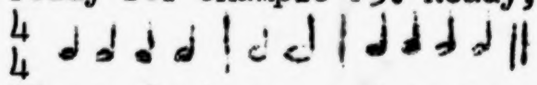


(Heard on tape) "Check your answers for example P2. Quarter, quarter, quarter, quarter, (PAUSE) whole (PAUSE) quarter, quarter, quarter, quarter."

Instructions for Example P3

The half note (𝅗𝅥) represents a length of time equal to two quarter notes. Two half notes fill a measure in 4/4 time. Listen to example P3 and write the notes you hear.

Get ready for example P3. Ready, one, two, three, four,



If you feel you need to hear the example again, rewind the tape. However, you should try to develop your listening skill to the point where you can correctly write each example after no more than three hearings.

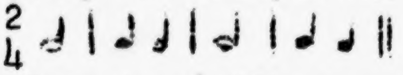
(Heard on tape) "Check your answers for example P3. Quarter, quarter, quarter, quarter, (PAUSE) half, half,(PAUSE) quarter, quarter, quarter,quarter."

If you did not correctly identify the half notes, rewind the tape and listen to the example again.

Instructions for Example P4

In 2/4 time, the beat unit remains the same as in 4/4 time. In other words, the quarter note gets one count. However, there are now only two counts in each measure. The next example presents quarter notes and half notes in 2/4 time. Listen and write the correct notation.

Get ready for example P4. Ready, one, two,



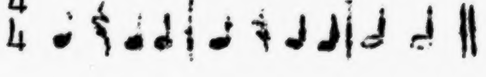
(Heard on tape) "Check your answers for example P4. Half, (PAUSE) quarter, quarter, (PAUSE) half, (PAUSE) quarter, quarter.

If you made more than one mistake, rewind the tape and listen to the example again.

Instructions for Example P5

A rest is a sign of silence. A quarter rest (𝄽) represents a period of silence lasting the same amount of time as a quarter note. A quarter note followed by a quarter rest would represent the same length of time as a half note. However, the sound represented by a half note is not the same as that represented by a quarter note and a quarter rest. In the next example, you are asked to distinguish quarter notes, quarter rests, and half notes.

Get ready for example P5. Ready, one, two, three, four,



(Heard on tape) "Check your answers for example P5. Quarter, quarter rest, quarter, quarter, (PAUSE) quarter, quarter rest, quarter, quarter, (PAUSE) half, half."

If you made more than one mistake, rewind the tape and listen to the example again.

III. INTERPRETATION

A. Analysis of Objectives

The knowledge and skill which this material seeks to develop is fully cognitive in nature, lying on the cognitive continuum within the range of "knowledge of specific facts". Using Gagne's ordering, it would be classed as multiple-discrimination learning.

B. Presentation Mode

Material to be learned is presented through tape recordings. Pupil responses are recorded in an answer booklet which also provides necessary instructions for using the tapes. The packet includes criterion tests, explanations of musical notation with correct answers.

C. Evaluation

The performance which this instructional material seeks to obtain is the writing of correct notation for short rhythmic phrases which are heard. To the extent that the learner is able to do this, the program is succeeding. Further evaluation might be provided by students' ability to gain entrance to advanced placement in college theory courses.

Criterion tests for each rhythmic and melodic unit measure the extent to which the pupil has achieved mastery of the material. Analysis of test performance will also indicate where branching units may be needed, or where the sequence itself needs revision. Analysis of variance would indicate how consistently the sequence is operating. Evaluation of pupil performance will indicate whether efficiency limits are appropriate. The sequence would need to be examined for possible uncontrolled variables which might affect performance. In these ways, the program would be subject to continual modification based on observation of its operation and of learner performance.

COLLEGE-LEVEL PREFACE

College-level group interaction was a stimulating and constructive force in the development and refinement of our projects. Since some of us had had very limited experience in devising various aural and visual materials, it was extremely helpful that others were able to offer us advice, assistance, and encouragement as we prepared our first transparemcies and planned tape recordings. For example, group interaction was of tangible value in facilitating such technical procedures as the design of masters and methods of correction. Also helpful was an interchange of ideas regarding types of pens and inks, recording techniques and quality of sound, planning of sequences, procedures for operating equipment, and various modes of presentation. The group worked together closely on such elements as clarification of terminology and selection of the most effective wording for our study guides. Of great importance in the development of our projects was the demonstration of individual materials for the group's general reaction and specific suggestions for further improvements. A primary stimulus in our work was the cohesiveness of the group itself and the warm cooperation between its individual members.

AN INTRODUCTION TO SCORE READING

developed by

Miss Sandi Kinyon
Lexington High School
Lexington, Massachusetts

A. OBJECTIVES

1. To familiarize the students with the overall score setup of a piano score, a string quartet score, and a full orchestral score.
2. To relate the aural aspects of orchestral sound to the visual representation of this sound via the full score reproduced on an overhead transparency roll.

B. EQUIPMENT REQUIRED FOR USING PACKET

1. One overhead projector with a horizontal roll attachment for the transparency rolls.
2. One screen
3. One stereo tape recorder

C. DESCRIPTION OF PACKET MATERIALS

1. One tape recording with narration. The following compositions are on the tape:
   Chopin, Preludes
   Mozart, "Minuette" from String Quartet in C, K 465
   Benjamin Britten, The Young Person's Guide to the Orchestra
   (version without narration)
2. Two transparency rolls of the following scores
   a. Roll I: Chopin, Prelude No. 6 in B minor
   Mozart, "Minuette" from String Quartet in C, K 465
   Benjamin Britten, first half of The Young Person's Guide to the Orchestra
   b. Roll II: Benjamin Britten, Second half of The Young Person's Guide to the Orchestra
3. One Musical Analysis Sheet. A ditto master or electrographic stencil can be made from this sheet and copies given to each student.

4. A Study Guide for the teacher

D. HISTORY OF DEVELOPMENT AND USE

I decided to develop packets for use in my academic music course, Music Major I, which meets 4 times a week and consists of students in grades 9-12, although over half the group has always been juniors and seniors. I at first envisioned five packets structured around score reading experiences with the following works: Benjamin Britten, The Young Person's Guide to the Orchestra, Aaron Copland, Appalachian Spring, Prokofiev, Classical Symphony, Schoenberg and Berg, Violin Concertos, possibly the Schoenberg String Quartet No. 4, Chopin, Prelude No. 6 in B minor, and Mozart, String Quartet in G, K 387.

It soon became obvious that time would never allow for more than a fraction of what I originally thought must be accomplished. I settled on an "Introduction to score reading" packet and an "Introduction to Atonal and Twelve Tone Music" packet and these two packets comprised my total output.

The evolution in my thinking on the score reading packet was as follows: I at first anticipated a total of four projectuals for the Chopin and Mozart pieces and one continuous roll for the Britten, 2 pages of score per roll with a 5% enlargement.

When I used the packet in my Music Major I class during the 1966-1967 school year, it became clear that the Britten score had to be enlarged to maximum one page per roll. This was done the summer of 1967. The "Minuetto" movement in the Mozart piece with its many repetitions made handling the projectuals awkward and hindered concentration on the projected score. Also, the "Minuetto" was performed at such a slow tempo that students lost interest in following the score.

For the revision during summer, 1967, the awkwardness of handling both roll projectuals led me to try one continuous roll including all 3 selections, one page of score per roll. The Mozart "Minuetto" from Quartet in G, K 387 was replaced by the minuet movement from the Quartet in C, K 465. This movement proved for better from a musical standpoint. I also decided to highlight in color on the roll score each featured instrument in the Britten variations; i.e. all woodwinds in blue, all brass in yellow, percussion in red and strings in green. After experimenting with stained glass paint, which could not be spread evenly over a passage in the score, and having seen that borgue paper blistered and peeled on someone else's projectuals I decided on Markette felt tip pens for my work.

With several tryouts during the 1967-1968 school year, the color highlighting proved to be effective in guiding the students through the composition, but complaints about the blue and red colors being too dark led me to decide on yellow as the best color with which to highlight. I decided to adopt a student suggestion to use just one color (the Yellow) throughout the score. This was done on the next roll of the Britten that was produced.

The idea for a narrated tape to accompany the scores-on-roll grew out of another project member's doing so. Only the first two works are prefaced by a narration (script included in the study guide). The tape proved effective in all presentations and required no revision, other than re-recording to improve fidelity.

E. EVALUATION RESULTS

The packet was tried out in the spring of 1967 in Music Major I. Production problems limited the efficiency of presentation because only a rather poor, taped together roll existed of the Britten. Evaluation was very informal. Students commented on the poor quality of the roll and that extra manipulation on my part hindered concentration on the projected score.

In the 1967-1968 school year, two other teachers from the project tried out the packet in their classrooms, Mr. Dwight Killam in Wilbraham and Mrs. Sheila Reid in Lincoln. I tried the packet out in both my Music Major I and theory classes. In all instances the packet was well-received. From comments made by students, it could be safely said that in all the classes where it was tried out, students increased their facility in understanding score setup and following a melodic line. This is based only on subsequent observation of students reading other orchestral scores and some test results. Mrs. Sheila Reid presented the packet to five of her junior high general music classes in Lincoln. Based on suggestions for evaluation in the study guide for this packet, she gave a test which evaluated the student's ability to use a bracket, and indicate which instrument had the melody in each measure of the initial 14 measures of the Mozart string quartet score. In her high ability level class more than half had perfect papers and the rest were in the "B" range. In her "standard" ability classes there were fewer "A's" but two thirds of the students did "A" or "B" work indicating comprehension.

Students in my Music theory class answered four questions evaluating the packet as to readability and increased comprehension of the music as a result of having followed the score on the projected roll. All the students found the score easy to follow except for the previously mentioned red and blue highlighting. Students indicated they understood the score better in terms of orchestration and in following the melodic line.

F. IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

It is the concept of acquainting a student with a score and increasing his ability to read it which presents broad implications for further development and study. The packet as it exists can be augmented with more score reading experiences of chamber and orchestral music, with specific evaluation instruments designed to assess precisely the effectiveness of the packet materials.

AN INTRODUCTION TO ATONAL MUSIC AND THE TWELVE TONE TECHNIQUE THROUGH THE WORKS OF ARNOLD SCHOENBERG, ALBAN BERG, AND ANTON WEBERN

developed by

Miss Sandi Kinyon
Lexington High School
Lexington, Massachusetts

A. OBJECTIVES

1. To familiarize students with the sound and visual representation of atonal and twelve tone music.
2. To present the twelve tone technique as simply as possible via overhead transparencies and a tape recording.
3. To give students an idea of the difference in style and technique employed by the three pioneer twelve tone composers.
4. To expose students to a variety of atonal and twelve tone music thrpugh vocal, orchestral, and chamber works.

B. EQUIPMENT REQUIRED FOR USING PACKET

1. One overhead projector with horizontal roll attachment for the transparency rolls.
2. One grease pencil
3. One screen
4. One tape recorder

C. DESCRIPTION OF PACKET MATERIALS

The packet contains 16 overhead projectuals designed to be presented in a sequence, four overhead transparency roll scores and a copy of the following:

1. A study guide for the teacher's use
2. One Musical Analysis Sheet - A ditto or electrographic stencil can be made from this sheet and copies given to each student.
3. A short vocal canon by Arnold Schoenberg

4. An analysis of the opening bars of the Schoenberg Violin Concerto (for teacher's use only)

5. A sequenced tape recording of the following compositions:

   a. Wagner, "Liebestod" from Tristan and Isolde

   b. Schoenberg, 5 minute excerpt from Verklärte Nacht, Opus 4

   c. Schoenberg, Pierrot Lunaire, Opus 21, songs I, V, VI

   d. Schoenberg, Violin Concerto, Opus 36, excerpts from the first and third movements

   e. Schoenberg, String Quartet No. 4, Opus 37, first movement excerpts

   f. Berg, "Altenberg Lieder," Five Songs Opus 4, song V

   g. Berg, Violin Concerto, first movement excerpt and entire first movement

   h. J.S. Bach, "Ricercar" from The Musical Offering

   i. Webern, "Orchestration of J.S. Bach's 'Ricercar' from The Musical Offering"

   j. Webern, Five Movements for String Quartet, Opus 5, first movement

   k. Webern, Five Movements for String Orchestra, Opus 5

D. HISTORY OF DEVELOPMENT AND USE

The idea for this packet grew out of the need to present twelve tone and atonal music in a meaningful way to my academic music class, Music Major I. This is a course meeting four times a week including students in grades 9-12, although over half the group has always been juniors and seniors.

I began with an outline of works I wished to include in my packet. These were Schoenberg's Verklärte Nacht, Pierrot Lunaire, (songs I, V, and VI); Berg's Altenberg Lieder Opus 4, Violin Concerto, Webern's Orchestration of J.S. Bach's 'Ricercar', 5 Pieces for String Quartet or Orchestra, Opus 5 and Six Songs. To provide several score reading experiences for exposure to and comparison with these three composers, I chose portions of the following works to put on the overhead transparency rolls: Schoenberg's Violin Concerto, excerpts from the first and third movements; Berg's Violin Concerto, first movement; Schoenberg's

Fourth String Quartet, first movement; and Webern's Five Pieces for String Quartet. I decided to experiment with the idea of using on projectuals only the words of Schoenberg's songs from Pierrot Lunaire, the Berg Altenberg Lieder, song V; and the Webern Six Songs. The projectuals were set up with the German text and the English translations side by side.

I decided to relate the twelve tone technique to the chromatic scale through a sequence of projectuals. I also decided to create a projectual to explain enharmonic tones (C# is the same note as D) for all the notes of the scale. The design concept for this projectual created several production problems which took much time. The final projectual proved to be very effective when I tried it out in the classroom.

I devised some projectuals to include fragments of a score (the Schoenberg Violin Concerto and Fourth String Quartet and the Berg Violin Concerto) with its corresponding tone row or a table of the 48 sets possible. These projectuals I hoped would be effective in presenting the way the composer had used a particular row in a composition.

I spent several hours listening to all of the compositions to determine what part of what movements I wished to tape record as an accompaniment to the rolls and projectuals. In presenting the packet, I hoped to start with sound first and then present the sound and visuals together.

During the spring of 1967 I introduced the twelve tone and atonal Music packet to my Music Major I class. The most obvious need which grew out of this presentation was to enlarge all of the musical examples on the projectuals because students often could not distinguish from the screen image whether a note was on a line or on a space. From an introductory standpoint, I felt some of the music I chose was not the best I could present. I also found the need to make additions to the packet to clarify Schoenberg's style and the twelve tone technique. Additions were the "Liebestod" from Tristan and Isolde by Wagner, and a dittoed copy of a twelve tone four part vocal canon by Schoenberg. The Schoenberg Fourth String Quartet was not well received, I decided to leave it in the packet only as supplementary material. The other four Schoenberg examples did suffice to demonstrate his style.

The most successful parts of the packet presentation were the projectuals designed to show the twelve tone technique and an evaluative process of having each student write his own tone row varied or transposed for any combination of instruments. From the students enthusiastic response, there is no doubt the composition assignment had great value in increasing the students' sensitivity to this music. Using projectuals with only the words to songs proved to be an effective way to present the Schoenberg, Berg, and Webern songs. Students found hearing the songs and seeing the words with English translations on the screen considerably enhanced the musical meaning.

Revisions during the summer of 1967 included the addition of one projectual of the opening bars of Schoenberg's Verklärte Nacht and a copy of his vocal canon Tonal oder Atonal. I decided to cut the Webern Six Songs mainly because I never had enough time to present them and the Schoenberg and Berg vocal works would suffice for this medium. The projectuals indicating how a composer had used a particular row in a composition were all extensively revised. Score fragments were enlarged to maximum and in some cases to clarify a point two new projectuals were made from one old one. The tape recording was entirely remade to accomodate the revisions.

During the 1967-1968 school year, Mr. Dwight Killam presented parts of the twelve tone packet to his high school Music Appreciation class in Wilbraham, Mass. I again presented the packet to my Music Major I class.

E. EVALUATION RESULTS

The students in Mr. Killam's class were an average to low ability group. They were asked to express their opinion as to whether or not the projectuals and roll scores helped them understand atonal and twelve tone music better than plain listening, packet scores, or thematics would have. Students' reactions were mixed. Those who could not read music at all found the projectuals and scores on rolls confusing and with a few exceptions reacted negatively. Those who appeared to have more music reading skill or more musical background indicated the projectuals and rolls helped to increase their understanding. The packet is designed for students who are music readers and have some music background.

The Music Major I students again wrote twelve tone compositions as the culminating evaluative experience for the packet presentation. From the imaginative and expressive pieces produced, I felt the students demonstrated a good understanding of atonal and twelve tone music as presented in the combined aural and visual approach.

F. IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

There are any number of ways the packet could be improved or further developed. Entirely new music could be substituted (perhaps more appropriate examples than those I used) for the selections I chose with the same or a similar presentation format. If revising the packet again, I would definitely substitute the Schoenberg Piano Concerto for the Violin Concerto, as the former work is a more accesible composition to present. I would also include Act III of Berg's opera, Wozzeck which I added to the packet in the spring, 1968, presentation to my Music Major I class.

More precise evaluation instruments for the packet need to be devised. Although the combined aural and visual approach to this packet appeared most successful for students with music reading ability and some music listening experience, the addition of other media or just using packet scores and/or thematics or using an entirely aural approach to teaching atonal music is not yet proven to be an inferior way of presenting this music.

Echelon Routine No. 1

Developed by

Donald J. Gillespie, Jr.
Lexington High School
Lexington, Massachusetts

A. Objectives

1. To focus attention of large group (band) on a series of sequential patterns of movement.
2. To show simultaneously group and individual movement.
3. To develop a more meaningful approach to teaching patterns of movement which will sustain interest and complete the task in minimal time.

B. Equipment Required

1. - overhead projector and screen suitable for large-group (100-125) viewing

1 - pointer

1 - grease pencil

music - sufficient supply for band instrumentation

1 - tape recorder

C. Description of Packet Materials

11 - sequenced projectuals for echelon routine

90-100 copies continuity sheets for individual bandsmen

1 - study guide

D. History of Development and Use

This packet was developed in the attempt to provide a more meaningful experience for individual and collective bandsmen permitting both a view of the total pattern sequence and the movement of the individual.

Difficulties experienced included:

1) In the process of photographing metallic bandsmen on an aluminum sheet, shadows appeared which tended to meld one individual into another.

2) "Metal men" refused to stay aligned during the photographic process.

As a result, this process is considered as lacking in quality, thus undesirable for further exploration. A simple template and pen are recommended.

During the fall of 1968 this approach was attempted for the first half-time appearance of the Lexington High School Band.

E. Evaluation Results

No formal evaluation of this approach has been attempted. Subjective individual reactions were noted as being predominantly negative although reasons for this were nebulous.

Because of this, the inadequacy of facilities for putting it into practice, time and personnel for making further projectuals, the approach was discontinued.

F. Implications for Further Development and Use

1. The potential for this approach still presents positive aspects.

2. Should the desired march music be available on recordings, sequenced tapes coordinated with projectuals of pattern movements could provide an interesting, illustrative teaching process.

3. Adapt a computer to program flow of movement in:
    a. Basic marching fundamentals--individual.
    b. Basic maneuvers--group.
    c. Patterned sequences viewed from:
        1) Above
        2) Sidelines

4. Using this computer programmed information, transfer the visual image to 8 mm. or 16 mm. film.

APPROACHING THE BAND REHEARSAL USING OVERHEAD PROJECTUALS AND TAPE RECORDER

developed by

Donald J. Gillespie, Jr.
Lexington High School
Lexington, Massachusetts

I. Prelude and Fugue in F minor, Houston Bright

II. Variants on a Mediaeval Tune, Norman Dello Joio

OBJECTIVES

Objectives of this approach are to seek a more meaningful and intellectually rewarding learning experience through a combined aural-visual approach. It is hoped that the learner's experiences will result in these measurable behavior changes:

1. Increased knowledge of the music - its design, structure, its unique qualities.

2. Improved performance resulting from greater understanding of musical design and of technical problems.

Thus the rehearsal will utilize the band (or chorus or orchestra) as a vehicle for the teaching of all of the properties of music.

Specific objectives for the Prelude and Fugue in F minor include:

1. Familiarity with the structural design of the prelude.

2. Familiarity with the design of a four-voice fugue including the manner in which the following are employed in the music.
   a. Subject
   b. Answer
   c. Counter subject

Specific objectives which apply to the Variants on a Mediaeval Tune include:

1. Familiarity with the musical design of a theme and variations.

2. Exposure to Norman Dello Joio's contemporary techniques of varying the thematic material.

3. Improved technical facility resulting from aural-visual-playing experiences.

EQUIPMENT REQUIRED

1 - overhead projector. Model Bretford 43E or equal with horizontal rollers.

1 - large screen suitable for viewing by 100-150 students.

1 - tape recorder with auxiliary speakers and suitable microphones. A stereo tape recorder is preferred. The tape recorder and speakers must be capable of adequate output for a large group situation. (100-150 students)

DESCRIPTION OF PACKET MATERIALS

1. Prelude and Fugue in F minor, Houston Bright
   - a. Three projectuals
     - 1) Theme A - Prelude
     - 2) Theme B - Prelude
     - 3) Fugue - sliding overlay containing subject, answer, counter subject
   - b. Overhead transparency roll of full band score of Prelude and Fugue.
   - c. Sequenced tape recording
   - d. Study guide

2. Variants on a Mediaeval Tune, Norman Dello Joio
   - a. Twelve single transparencies concerning
     - 1) Thematic variation (7)
     - 2) Technical problems (5)
   - b. Overhead transparency roll of full band score to Variants on a Mediaeval Tune.
   - c. Sequenced tape recording (36 sequences)
   - d. Study guide

HISTORY OF DEVELOPMENT

All too often the rehearsal, be it choral or instrumental, is concerned solely with the improvement of performance techniques. Great attention is focused on such factors as intonation, balance, diction, attacks and releases and the technical aspects of interpretation as viewed by the conductor. This is good, but is time devoted to consideration of the music itself, its design, construction, the observable historical imprint or stylistic traits of the composer which may exert a strong influence on this music?

It appears that frequently little is done in this area of presenting sheer musical information to performing groups. Often, where it is done, it is in lecture form where many students "turn off" this portion of the rehearsal. These packets are designed to invoke and sustain students' interest through visual illustrations allied with aural experience hearing a high quality recording of the work under consideration and to be followed by proceeding directly to the playing or singing of the music. An alliance of seeing, hearing and performing would seem to be a logical process to stimulate and sustain interest and discrimination. Accordingly, single transparencies (projectuals) and score on reel were developed to coincide with taped sequences one to reinforce the other, the two intended to result in improved performance with a musically literate performer.

EVALUATION RESULTS

Because of technical difficulties encountered, the combined media approach to the rehearsal situation has not been attempted. Problems yet to be solved locally are:

1. Locating a large screen in such a position that it can be easily seen by a large group in rehearsal seating.

2. Completing the design and installation of an amplified sound system which permits use of the large organ speakers now suspended above the rehearsal area. The sound system cannot be inadequate or success with this approach is impossible.

It is hoped that this situation can be corrected and the approach employed in the school year 1968-1969.

IMPLICATIONS FOR FURTHER STUDY

It appears obvious that implications for further study should arise as a result of the use of the prepared materials. This being impossible at the present writing, the implications that follow must be viewed as conjectural offshoots as to what might develop as a result of the use of this approach.

1. A series of packets of programed instruction could be developed for use with individual students who are encouraged to further their knowledge of:
    a. Theory
    b. Melody reading
    c. Rhythmic reading
    d. Instrumental techniques
    e. Instruments of the band (orchestra), their ranges, function, peculiarities.
    f. Specific historical periods relating to music of the band, the orchestra, chorus, ensemble.

2. Commercial interest could be encouraged in the production of scores and projectuals for use with the overhead projector and accompanying tapes.
3. The band, orchestra and chorus in the rehearsal period should be approached by music educators as a vehicle for the teaching of music in all its implications.

ORCHESTRATION

developed by

David D. Kaplan
Berklee School of Music
Boston, Massachusetts

OBJECTIVES

1. To correlate the visual image of the individual orchestral instruments and certain notated passages for each instrument with the corresponding musical examples as heard on the record "Instruments of the Orchestra".

2. To familiarize the student with typical written parts.

3. To recognize the tone color of instruments alone and in combination.

4. To name verbally or in writing the various solo instruments as heard, with not more than one error in each of the string and brass packets, and not more than two errors in each of the woodwind and percussion packets after the second hearing.

EQUIPMENT NEEDED

1. Transparencies - four packets
   a. Set One - Strings
   b. Set Two - Brasses
   c. Set Three - Woodwinds
   d. Set Four - Percussion

2. Overhead projector suitable for showing transparencies.

3. Screen

4. Record player (preferably a stereophonic player with external speakers).

5. Set of two records "Instruments of the Orchestra", National Symphony Orchestra, Howard Mitchell, Conductor--published by RCA Victor. Monophonic LE-6000, Stereophonic LES-6000.

DESCRIPTION OF PACKET MATERIALS

1. Comparative playing ranges using overlays.

2. The name and picture of individual instruments, together with a notated passage illustrating its low and high registers.

   Note: Additional projectuals showing the written notation of various bowings for each of the string instruments, and the written notation and the actual pitch for each of the transposing instruments are included at this point.

3. Title of the composition and its composer, together with a typical notated passage taken out of its orchestral context.

4. The same notated passage as it appears in its orchestra context. The instrumental notation in question is emphasized by a colored overlay.

5. In each instance the notated passage corresponds with the musical example as heard on the record "Instruments of the Orchestra".

6. The projectuals are coded according to instrument families and numbered sequencially i.e. Set One - Strings, S1, S2, etc., Set Two - Brasses, B1, B2, etc., Set Three - Woodwinds, WW1, WW2, etc., Set Four - Percussion, P1, P2, etc.

HISTORY OF DEVELOPMENT AND USE

During the school year of 1965-1966 the music department at Newton South High School, Newton, Massachusetts decided to include an orchestration course in its curriculum. The proposed starting date was September, 1966. This course was directly responsible for my choosing the resultant project.

The general plan was to place, on projectuals, all notations corresponding to the music played on RCA LE-6000 or RCA LES-6000. So that the beginning orchestration student may have an overview of the ranges of the various instruments, I developed projectuals for the strings, brass and woodwind instruments showing the complete combined playing range in each family. An overlay for each instrument, in different colors, may be superimposed to show comparative ranges. It was necessary to write notes which were not scored, such as the passage played illustrating various bowings for the string instruments.

Thematics and the corresponding parts of full scores were photographed, enlarged or reduced so as to fit into the projectual frames. Wet copies were produced where needed, paste-ups were made and manuscripts were written in the preparation of all master sheets. For optimum results all staves were drawn with a ruling pen using India ink.

The accentuating of solo passages in the full score was done with borgue paper in 1966, but was found to lose its adhesiveness and peeled due to the heat of the projector. During 1967 I made overlays to replace the borgue paper. This proved most effective and mobile since the full score can be viewed with or without the reinforcement of added color.

Set One--Strings and Set Two--Brasses were used during the first semester of 1966-1967 while I was teaching at Newton South High School, Newton, Massachusetts.

In April, 1967, a demonstration was given at Boston University for approximately fifty Music Education students. Another demonstration was given for approximately thirty Music Education students at the Berklee School of Music in Boston, Massachusetts, in May, 1967. Similar demonstrations of Sets One and Two were given informally for interested adults in October, 1967. Two teaching classes were given at the Chandler Street Junior High School, Worcester, Massachusetts, in April, 1968. Set One--Strings was used in a general music class at the eighth grade level for two different groups. In June, 1968, a combined group of sixth and seventh grade pupils at Elizabeth Street School in Worcester, Massachusetts, viewed a showing of Set One, and two weeks later saw Set Two. During 1967-1968, while teaching at the Berklee School of Music, I showed various portions of Sets One and Two as they were applied to the context of class discussion.

EVALUATION RESULTS

Set One - Strings and Set Two - Brasses were used at Newton South High School in connection with the orchestration course. The students found these packets concise and vivid. In contrast to the clarity of Sets One and Two, it was necessary to find pictures, write out registers and rely on aural demonstrations without the overhead visual aspect while teaching the woodwinds and percussion instruments. More time was consumed without the projectuals which resulted in slower labored sessions. The advantage of the packets are the planned material, pointedness of examples, time efficiency and coordination of visual and audio aspects.

The comments from students and instructors from Boston University and Berklee School of Music concurred in the usefulness of the media and these packets.

Pupils at the Chandler Street Junior High School wrote comments of their impressions. They were elated to learn vocabulary, see and hear the instruments, follow thematics and see the corresponding full scores. The result was most rewarding.

The sixth and seventh grade pupils at Elizabeth Street School were most interested, attentive, responded to questions, voiced opinions and were excited at having the opportunity to hear and learn about the orchestral instruments.

After first hand use of the material as mentioned above, I conclude that the packets on Orchestration can be employed to good advantage from the sixth grade through college levels.

IMPLICATIONS FOR FURTHER DEVELOPMENT

Inasmuch as the projectuals are specifically based on the music played on the records RCA LE-6000 and RCA LES-6000, there is no choice but to employ the given sequence. However, it is suggested that a programed tape be made so that each example be taped twice with a five second blank interval appearing between examples. The reasoning being that the tape may be stopped after the first hearing of an example to allow for discussion. On completion of the discussion the tape may continue from the last stopping point to replay the same passage. The use of the tape eliminates the search and find of the "drop the needle" technique.

Another suggestion, from the visual standpoint, might be, on the first projectual of each instrument, to include a picture of a person playing that instrument. It is hoped that this might lend a more human touch to the projectual, thereby giving an added interest.

MATERIALS FOR MUSIC LITERATURE

developed by

Miss Mary Ann Norton
Worcester State College
Worcester, Massachusetts

and

Miss Vernice Van Ham
Salem State College
Salem, Massachusetts

A. Objectives

It shall be the purpose of this project to provide the teacher of music history or literature with materials which may be used in the presentation of works by representative composers. It is hoped that these materials will:

1. Clarify for the student the structure of basic works in an effective presentation.
2. Result in a better understanding of these works.
3. Provide a more meaningful musical experience through the correlation of visual and aural media.
4. Provide means whereby the course content may be of greater interest and enjoyment.
5. Facilitate a more complete presentation of such elements as melody, rhythm, harmony, form, and style.
6. Enhance the use of any music history text.
7. Provide for greater economy of time in the teacher's class preparation and presentation.

The study of the works in this unit should result in definite learning outcomes. An outline of possible learnings is provided. By no means all-inclusive, it should serve to suggest rather than limit goals and objectives. It is hoped that the teacher will select specific objectives and follow them up with evaluative techniques which measure the attainment of these desired learning outcomes.

Suggested Learnings

1. Recognition and comprehension of form: sonata-allegro, sonata-rondo, theme and variations, minuet and trio, suite, cyclical structure, binary and ternary forms.

2. Recognition and comprehension of elements of form: repetition and contrast in melody, rhythm, harmony, tempo, and dynamics.

3. Recognition and comprehension of the organization of form: analysis of themes and motives, both rhythmic and melodic, as integral parts of a movement; analysis of outstanding rhythmic, harmonic, and dynamic features.

B. Equipment Needed

1. Overhead projector (including roll attachment that rotates horizontally)

2. Screen

3. Tape recorder (external speakers, if possible)

C. Description of Packet Materials

Included for each composition are transparencies of themes, a transparency roll of the entire work or of selected movements, and a sequenced tape recording. Each tape redording contains musical examples of the individual themes followed by a complete movement. These examples are presented in sequence, are each played twice, and are illustrated on the overhead transparencies.

The works included are:

Haydn, Symphony No. 94 in G Major, ("Surprise")

Mozart, Symphony No. 40 in G Minor

Beethoven, Symphony No. 5 in C Minor

Mendelssohn, A Midsummer Night's Dream, Overture

Tchaikovsky, Romeo and Juliet, Overture-Fantasy

Dvorak, Symphony No. 5 in E Minor, ("From the New World")

D. History of Development and Use

"Materials for Music Literature" originated as a separate project entitled "An Approach to the Understanding of Sonata-Allegro Form". The initial idea for this project evolved from the suggestion that the materials to be developed should relate directly to our individual teaching situations. Thus immediate use and evaluation would be assured.

The main objective was to develop structured lessons to be used in teaching the many aspects of sonata-allegro form at the college level using sequenced tape recordings, overhead transparencies of important thematic material, and a transparency roll of the full score with the development section highlighted with colored tape for illustrative purposes.

The many technical problems encountered in the production of the visual materials made the work difficult, but the basic problem inherent in the entire concept was the insurmountable task of including all the information essential to adequately teach sonata-allegro form.

The result was an extremely detailed, complicated, and wordy treatise which proved entirely impracticable. This became more obvious as I began to work with the lessons. The visual and aural materials, although in need of some refinement, were workable and interesting, while the actual guide was quite rigid and confining.

It also seemed obvious that most college teachers would have already shaped this information into presentations applicable to their own situations but that quite often they had a dearth of available illustrative materials (musical examples and full scores that the class could see and follow) to aid in presenting more efficient and meaningful lessons.

Upon collaboration in the summer of 1967, Miss Van Ham and I felt that as college teachers, we really needed aural and visual materials for our work rather than more methodology. We also felt that the availability of such materials would be useful to other college music teachers and would, therefore, be a better contribution to the music profession. Hence, we agreed to change direction and selected a new title, "Materials for Music Literature". This project includes aural and visual examples which may be used in the presentation of works by representative composers but which allow the teacher to select his own goals and objectives and cover those elements of the music which are appropriate for his class without being bound by an inappropriate structure.

The materials in this form have been used successfully at Worcester State College, Worcester, Massachusetts, and at Lexington High School, Lexington, Massachusetts.

E. Evaluation Results

"Materials for Music Literature" was used at Worcester State College this past academic year. The intended freedom of the project allowed me to work for different objectives and desired changes of behavior in each of the two Music Appreciation classes I taught. However, since the two classes were offered in different semesters, there was no opportunity to have a control and experimental group in order to prove statistically that the availability of aural and visual media made an appreciable difference in achievement. Test scores were higher than with previous classes, but because of the multi-variables, definite conclusions could not be reached.

Although insight and understanding are difficult to measure, my subjective observations lead me to conclude that this is where the greatest growth manifested itself.

As far as the materials themselves are concerned, enough cannot be said for having visual materials at hand for reinforcement of the aural. Most valuable are the transparency rolls of full scores for every class member to see and follow.

F. Implications for Further Development and Study

Since this project is unstructured, there are many possibilities for further development. Using the same format, it may be easily expanded to include other works from standard repertoire or works which might be considered more specialized.

In the area of individualized instruction, these materials could be adapted to the systems approach using aural media, visual media, or a combination of both. In all cases, it would be necessary to construct the specific behavioral objectives for the particular aspects or elements of the composition to be studied and to select the mode of response most applicable to these objectives and desired learnings.

DEVELOPMENT OF TAPE RECORDINGS AND OVERHEAD TRANSPARENCIES TO BE USED AS A SUPPLEMENT TO AND IN CONJUNCTION WITH THE TEXT AND RECORDING OF THE CRAFT OF MUSIC TEACHING IN THE ELEMENTARY SCHOOL BY SCHUBERT AND WOOD, SILVER BURDETT COMPANY.

developed by

Miss Vernice E. Van Ham
Salem State College
Salem, Massachusetts

OBJECTIVES

It shall be the purpose of this project to provide supplementary and correlative material through the development of tape recordings and overhead transparencies which will be used to illustrate and expand upon topics covered by the text. It is hoped that this series of recordings and transparencies will: 1. enhance the use of the text and make its content a more valuable part of the course; 2. clarify for the student many areas of textual exposition in an effective presentation; and 3. provide for greater economy of time in the teacher's class preparation.

EQUIPMENT REQUIRED

Text: Schubert, Inez, and Lucille Wood. The Craft of Music Teaching in the Elementary School. Morristown, New Jersey: Silver Burdett Company, 1964.
Recording for The Craft of Music Teaching in the Elementary School
Series of tape recordings and overhead transparencies
Teacher's Guide to the use of the materials
Stereo tape recorder
Record player
Overhead projector
Screen
Pointer

DESCRIPTION OF MATERIALS

The Craft of Music Teaching in the Elementary School provides a sequential presentation of basic song material, from which are derived related musical illustrations and terminology. In the text familiar songs are chosen for initial experiences leading to the discovery of the basic elements of music. The individual lessons are geared to class participation in singing, listening, rhythmic, and instrumental activities.

The supplementary tape recordings which have been designed to accompany this text include all listening materials cited and thematically quoted in the text but not found on the Craft of Music Teaching recording. These taped illustrations represent an assimilation of materials from varied sources. Their availability on tape therefore constitutes a specific aid to the teacher. Additional illustrations and explanations have been provided for discussion and clarification of textual content. In no case, however, does this taped material include songs already found on the Craft of Music Teaching recording. Certain specific classroom procedures outlined in the text and designed for active teacher-student participation have also been omitted.

The Teacher's Guide which accompanies these materials includes an outline of the content of the tape recordings and overhead transparencies as well as suggested procedures for their use.

HISTORY OF DEVELOPMENT AND USE

These materials were designed for a sophomore basic music course at Salem State College, Salem, Massachusetts. The course is designed to provide the student with an introduction to, and an applicable understanding of, the field of music. Included are theory, sightreading, rhythmic and melodic dictation, ear training, music appreciation and listening, vocal performance, piano performance of melody with a harmonic realization from chord symbols, performance on autoharp, flutophone, and rhythm band instruments.

Much of the instruction of this course is independent of the text, which forms a kind of background resource, sequential and cumulative. As only one part of the course content, the text has received varied emphasis by individual teachers. It was hoped that the series of tape recordings would eliminate the inaccessibility factor of many of the text's suggested listening examples and thereby both increase the effectiveness of the text itself and provide for a more profitable use of the teacher's time in class preparation.

In addition to developing supplementary materials for the fifty-five lessons of The Craft of Music Teaching, it was my original intention in the summer of 1966 to write an approach to the teaching of flutophone through the use of the overhead projector. However it soon became evident that the amount of time required to organize the Craft project and to write the narrations to be included on the tape recording would make a second project unfeasible at that time. The first summer, then, was spent in developing and recording these sequences, making overhead transparencies which would provide a visual reinforcement for the recordings, and writing a teacher's guide to the content and use of the materials.

Due to a two-year leave of absence from the college, I have not yet had the opportunity to submit the project to actual use and evaluation. However, during the summer of 1967 most of the transparencies were revised to eliminate anticipated problems. In some cases this simply involved using a more opaque ink. In others, the problem of having too much material on one static and its overlays was removed by making two transparencies, each with overlays. Thus the same information can now be presented with greater clarity in a step-by-step procedure. Although it was felt that certain sections of the tape recording and study guide might be revised to advantage, these changes were thought to be of secondary importance in that they should not interfere with implementation and evaluation of the project in its present form. Since such implementation was not anticipated until the fall of 1968, I spent most of the second summer in collaboration with Miss Norton in the development of materials to be used in teaching music literature.

EVALUATION RESULTS

Since these materials have not yet been used, no evaluation has taken place. In the teacher's guide to the use of the materials, provision has been made for informal evaluative procedures. It is also expected that the teacher will develop criteria and techniques that measure the attainment of general and specific objectives and that compare the performance of classes using the audio-visual media with those who are not.

IMPLICATIONS FOR FURTHER DEVELOPMENT

The basic plan of a series of supplementary recordings and transparencies can be adapted to various texts, and the opportunities for such expansion are unlimited. In its present design this project makes use of both record player and tape recorder, a situation which resulted from the attempt not to infringe on the copyrights of the Craft of Music Teaching text and recording. Thus there was no duplication of either visual examples or recorded songs. However it would seem that this somewhat cumbersome procedure should be eliminated by having all narrations and musical illustrations either on tape or record.

Rather than further adapt these supplementary materials to this or any other specific text, a more desirable possibility might be to construct a new programed text and recording which could be used by students in a learning laboratory. Such a revised design might better provide for individual rates of progress in becoming acquainted with the fundamentals of music and performing related tasks without requiring the teacher to devote extensive class time to these areas. This procedure would not remove the need for the teacher, but it would increase possibilities for greater classroom efficiency. It would also provide for individualized reinforcement and evaluation of learnings.

PROGRAMED INSTRUCTION IN MUSIC LISTENING

developed by

James A. Wiltshire
Boston Conservatory of Music
Boston, Massachusetts

OBJECTIVES

1. To develop sensitivity in listening to music, so that the children will not only listen for enjoyment, but will focus their attention on the various musical elements as they exist in each composition.

2. To develop a knowledge and an understanding of these musical elements, namely the mood, dynamic and instrumental contrasts, themes, melody, rhythm, harmony, and form, as they exist in each composition, through the media of:

   programed tape recordings
   wall charts
   overhead projectuals
   musical theme sheets
   musical form and theme analysis sheets
   musical analysis sheets
   rhythm and tonal instruments

EQUIPMENT AND MATERIALS NEEDED

1. TAPE RECORDER (to be used in conjunction with a high fidelity stereo sound system. The sound equipment on which this tape is played should be of the highest quality. It is suggested that the use of "internal speakers" on a tape recorder are not adequate for use in a successful listening experience).
2. OVERHEAD PROJECTOR (Optional)
3. SCREEN (Optional)
4. RHYTHM AND TONAL INSTRUMENTS

DESCRIPTION OF MATERIALS

1. Programed tape recording.

Each packet contains a programed tape recording of musical examples, which has a significant advantage over the use of a record, in that the teacher need not hunt for the section of the music which he would like to play, and he may repeat each musical example as many times as he likes without the distraction of hearing the needle drop on the wrong musical excerpt. The technique was developed by Dr. Jack Lemons, Associate Professor of Music Education, School of Fine and Applied Arts, Boston University.

2. Overhead Projectuals and Wall Charts.

The packets include two modes of visual presentation of themes from the musical composition, namely overhead projectuals and wall charts.

3. Theme Sheets, Form and Theme Analysis Sheets, and Musical Analysis Sheets.

Sheets including the themes from the musical composition, an outline of the form and theme analysis, and musical analysis sheets are included in the study guide. Ditto or electrostatic stencils may be made from these sheets, so that each pupil may have a copy.

4. Study Guide.

For each packet there is a Study Guide for use by the classroom teacher or music specialist. The guide contains the following sections:

SECTION I--Suggestions for teaching (This section is divided into sequences, each one of which involves three parts: (a) Preparation for listening, (b) The playing of the Musical Example, and (c) Discussion following the listening experience).
SECTION II--A. Order of Musical Sequences on Tape Recording
B. Order of charts or projectuals
SECTION III--Musical Theme Analysis Sheets
SECTION IV--Musical Analysis Sheets (Optional)

HISTORY OF DEVELOPMENT AND USE

Development

During the school year 1966-1967, the author was engaged in doctoral studies in music education at the School of Fine and Applied Arts, Boston University, and served as a Teaching Fellow and Supervisor of Student Teaching. At this time the author worked very closely with Dr. Jack Lemons, who developed the Programed Tape Recording Technique described above for use in teaching music listening.

In the summer of 1966, three lessons employing this technique were developed by the author as follows:

1. Prokofieff, Serge, March from "Summer Day Suite", Grade 3.
2. Wagner, Richard, Prelude to Act III from "Lohengrin", Grade 6.
3. Mozart, Wolfgang, Menuetto from "Divertimento No. 17 in D", Grade 5.

By the conclusion of the 1966 summer conference, only the first two listening lessons were completed. The study guide for the third lesson was completed but there was not time to complete the projectuals.

During the school year 1966-1967, the first two lessons, March from "Summer Day Suite", and the Prelude to Act III from "Lohengrin" were used extensively by student teachers, music specialists, and classroom teachers in music classes in Canton, Newton, and Lexington, Massachusetts.

Another use of the lessons was in the preparation of teachers through demonstrations given by the author in Student Teaching Seminar, Secondary Methods Class, and Audio Visual Materials Class at Boston University, and in Music Workshops in Canton and Newton.

Both teacher and student response to the lessons was completely positive, showing a marked preference for teaching and experiencing listening in this way, as opposed to conventional classroom procedures.

During the summer of 1967 the study guides for the first two lessons, JW--1 and JW--2, were revised to provide clearer instructions for the teacher, more discovery oriented procedures, and in the case of JW--2, a two-day learning sequence. Appropriate revisions also were made in the programed tapes and in the overhead projectuals.

The study guide for the third lesson, JW--3, Menuetto from "Divertimento No. 17 in D" was revised slightly and the projectuals for this lesson were completed.

Further use of the lessons JW--1 and JW--2 in the classroom indicated that the lessons provided a much more satisfactory approach to teaching listening than conventional classroom procedures. The third lesson, JW--3, was equally successful in initial tryouts.

The lessons received continued use in the preparation of teachers through demonstrations in the Audio Visual Materials class at Boston University, the Observation and Practicum class at the Berklee School of Music, the Supervision and Curriculum Development in Music Education class and Seminar in Music Education at the Boston Conservatory of Music. The demonstrations were used in conjunction with student assignments in creating programed listening lessons.

The students, in most cases, were able to grasp the process of analyzing the musical composition, writing the study guide, developing the visual materials, and programing the tape recording.

Evaluation Results

Three procedures were used in evaluating the lessons, as follows:

1. Theme Sheets and Musical Analysis Sheets for the evaluation of student learnings.
2. Evaluation Forms for observer reports of listening lessons, as to student responses, success by the teacher, and the suitability of the content of the lesson and the media employed.
3. Evaluation Forms for teachers using the lessons in the classroom as to their success with the technique, their evaluation of the media, and their suggestions for revision.

Since most of the student responses to the listening experience are designed to be made in the classroom setting, theme sheets and musical analysis sheets were used quite informally as an evaluation tool.

Evaluation forms for observers and evaluation for teachers using the lessons were used much more extensively.

Students responded enthusiastically to the opportunity of listening to music when it was presented on high fidelity sound equipment. Teachers reported that they enjoyed the listening experience and responded easily to most of the tasks included in the lessons. A higher percentage of active student participation than normal was cited by teachers as evidence of the children's enjoyment of the lessons.

Teachers reported that, after a minimal amount of practice in operating the equipment, along with convenient placement in the classroom, the multi-media presentation utilizing the tape recorder, overhead projector, and rhythm and tonal instruments was handled quite efficiently.

Both classroom teachers and music specialists, using the programed tape technique for the first time were delighted to discover that they were able to teach music successfully to their students, and at the same time to grow dramatically in their own musical understanding.

The programed tape technique for teaching music listening can be reported as effective through the presentation of many repeated hearings of the musical composition, the development of rhythmic and melodic concepts, and elements of form as they exist in the music.

IMPLICATIONS FOR FURTHER DEVELOPMENT AND STUDY

The listening lessons are adaptable to many modes of presentation. Since each sequence contains three parts, namely, directions, musical example, and discussion, the transfer to a strictly individualized programed instruction format, containing directions, stimulus, and response is quite obvious.

Implications for a systems analysis approach to programed instruction in music listening will be found elsewhere in this document.

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An Application of the Systems Analysis Approach
to
March from "Summer Day Suite"
by
Sergei Prokofieff
a lesson in
Programed Instruction in Music Listening

developed by

James A. Wiltshire

I. INTRODUCTION

The listening lesson, March from "Summer Day Suite" by Sergei Prokofieff, developed by James A. Wiltshire was designed in its original form to be presented by a classroom teacher or music specialist, utilizing a study guide, a programed tape recording of the musical composition, and wall chart or overhead projectuals of the themes. The lesson was chosen as being applicable to a systems analysis approach in that it was:

1. learner oriented (rather than teacher oriented)
2. concerned primarily with learnings in the cognitive domain, since these learnings are more accurately evaluated.
3. able to provide adequately for individualized instruction.
4. able to lend itself easily to criterion testing.
5. adaptable to several modes of presentation and response.
6. based on definite sequenced behaviors.
7. structured to provide for immediate evaluation and reinforcement of the learner.
8. designed to offer possibilities for alternative branching procedures.
9. designed to be completed within a definite time period and with a measurable rate of learning efficiency.

The following section will be concerned with an application of the systems analysis approach to the listening lesson.

II. APPLICATION TO SYSTEMS ANALYSIS

A. General Goal

To develop musical literacy

B. Specific Goal

To develop the ability to identify the form of the musical composition.

C. Entry Behaviors

The student should have:

1. The ability to identify various types of musical compositions, such as march, waltz, hymn, and lullaby.
2. The ability to identify duple and triple meters as they exist in musical compositions.
3. The ability to identify phrases as they exist in musical compositions.
4. The ability to identify the letter names of the notes in the treble clef.
5. The ability to identify notes in a melody when played on the bells.
6. The ability to play the bells on simple melodic patterns.
7. The ability to identify the relative pitch of a melody, such as higher, lower or the same.
8. The ability to identify major and minor modes as they exist in musical compositions.
9. The ability to identify simple two part form as it exists in musical compositions.
10. The ability to read at a third grade level.
11. The ability to operate a tape recorder as a listening device.

D. Tasks

The student should be able to:

1. Identify the type of music heard as a march.
2. Identify the meter of the music as being either duple or triple.
3. Identify the number of phrases heard in the music of Theme A.
4. Identify the point in the music at which the phrases end in Theme A.
5. Identify the point in the music where the bells play the notes in the melody.
6. Identify the letter names of the notes for all C's, E's, and G's in Theme A.
7. Play the bells on the notes C, E, and G in Theme A.
8. Identify whether the music heard in Theme A Repeated is higher, lower, or the same as in Theme A.
9. Identify whether the music heard in Theme B is in major or minor mode.
10. Identify whether the music heard in Theme B and A together, changes in mode from major to minor, minor to major, or stays the same.
11. Identify the form of the entire composition as AABA.

E. Behavioral Objective

The student should be able to write the form of the musical composition, namely AABA, given three complete hearings of the music, with 90 per cent efficiency.

F. Learning Sequence

The complete program is comprised of eleven tasks, involving responses to the rhythmic and melodic elements, and the form of the musical composition as follows:

Sequence #1

a. Directions

Listen to the musical example and underline the word that describes the type of music that you heard.

Turn on your tape recorder.

b. Stimulus

Musical Example #1 (Entire Composition)

c. Response

(1) waltz (2) hymn (3) march (4) lullaby

---

d. Answer

(3) march

The title of the composition is March from "Summer Day Suite" by Sergei Prokofieff.

Go on to Sequence #2

Sequence #2

a. Directions

Listen to the musical example again. If the music has a feeling of moving in two's underline the word duple. If the music has a feeling of moving in three's underline the word triple. You may tap your pencil to help you make your response.

Turn on your tape recorder.

b. Stimulus

Musical Example #2 (Entire Composition)

c. Response

(1) duple (2) triple

---

d. Answer

(1) duple

The music moves in two's and is in duple meter.

Go on to Sequence #3

Sequence #3

a. Directions

Listen to the musical example, Theme A and underline the number of phrases that you hear. You may count to help you make your response.

Turn on your tape recorder.

b. Stimulus

Musical Example #3 (Theme A)

c. Response

one two three four five

d. Answer

two

The music in Theme A has two phrases. If you underlined four you probably counted half-phrases which is also a good answer.

Go on to Sequence #4.

Sequence #4

a. Directions

Listen to the musical example, Theme A again, and place an "X" on your theme sheet at the point in the music where each of the two phrases end.

Turn on your tape recorder.

b. Stimulus

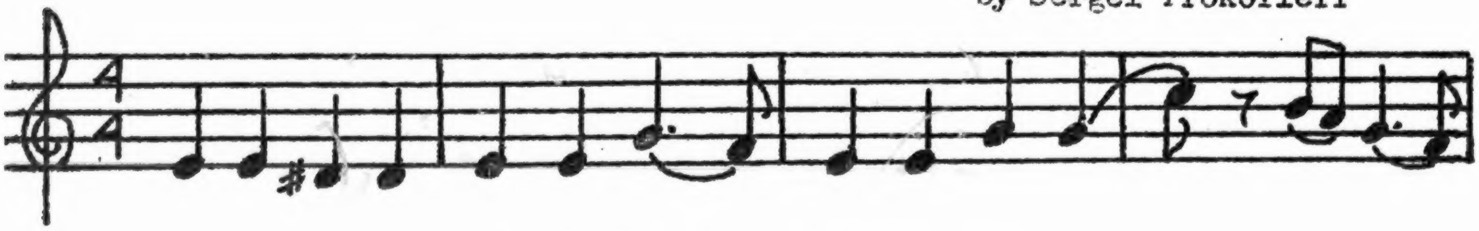
Musical Example #4 (Theme A)

c. Response

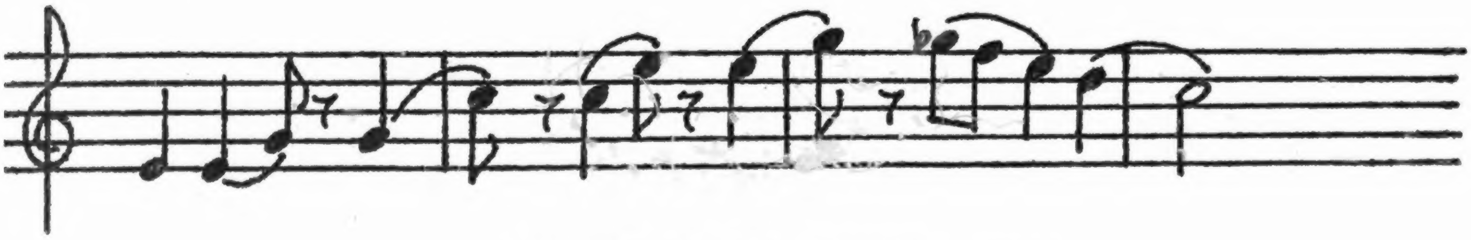
THEME A

March from "SUMMER DAY SUITE"

by Sergei Prokofieff



(STUDENT WRITES RESPONSE HERE)



(STUDENT WRITES RESPONSE HERE)

d. Answer

Your X's should appear at the end of line #1 and line #2 of the music. Theme A has two phrases.

Go on to Sequence #5.

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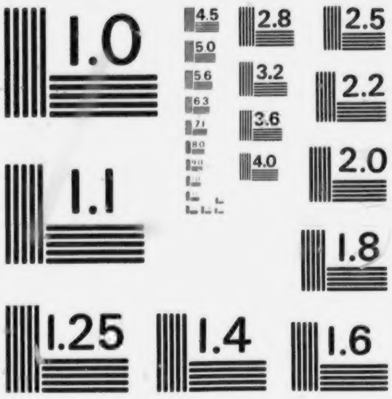
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1.4
1.6

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Sequence #5

a. Directions
Listen to musical example Theme A again, and place an "X" on your theme sheet under the notes which you hear played on the bells in the music.

b. Stimulus

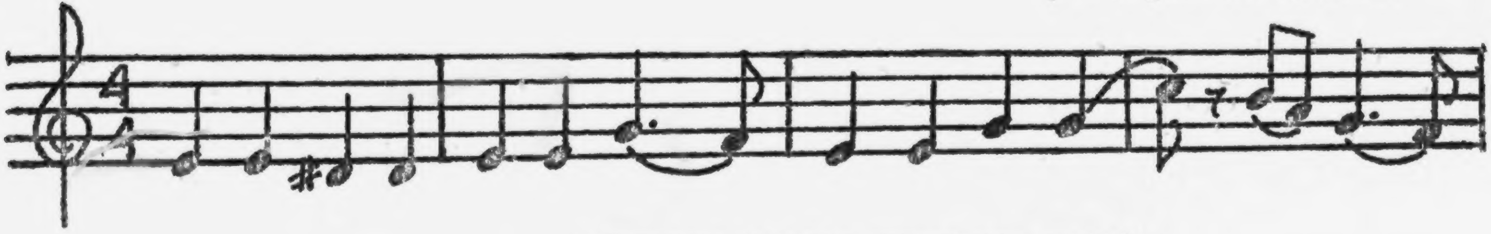
Musical Example #5 (Theme A)

c. Response

THEME A

March from "SUMMER DAY SUITE"

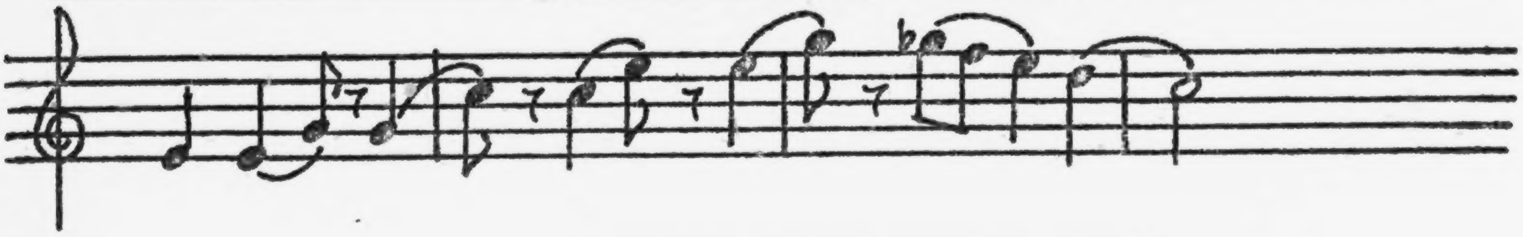
by Sergei Prokofieff



(STUDENT WRITES RESPONSE HERE)

Answer:
X X X X X X X

This portion would be masked.



(STUDENT WRITES RESPONSE HERE)

Answer:
X X X X X X X

This portion would be masked.

d. Answer
Take the mask off your theme sheet to check your answer. Each measure has two "X's" in it except for the first and last measures which have only one "X".

Go on to Sequence #6.

Sequence #6

a. Directions
Listen to musical example Theme A again, and place the letter names of the notes on your theme sheet under the notes which you hear played on the bells in the music.

b. Stimulus

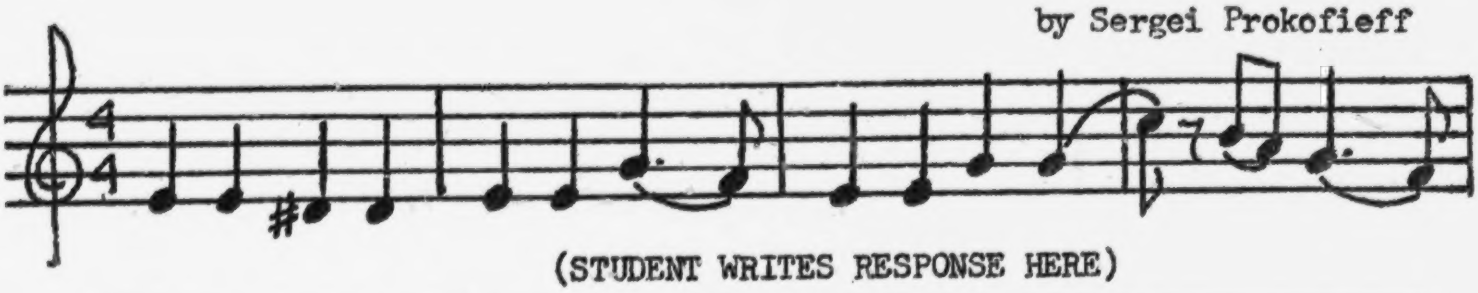
Musical Example #6 (Theme A)

c. Response

THEME A

March from "SUMMER DAY SUITE"

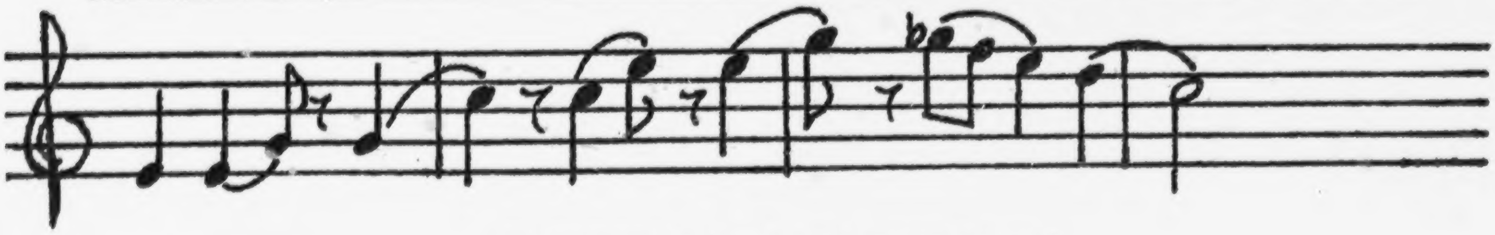
by Sergei Prokofieff



(STUDENT WRITES RESPONSE HERE)

E E G E G C G

This portion would be masked.



(STUDENT WRITES RESPONSE HERE)

E G C E G E C

This portion would be masked.

d. Answer
Take the mask off your theme sheet to check your answer. Each measure has two notes in them, except for the first and last measures which have only one note.

Go on to Sequence #7.

Sequence #7

a. Directions
Listen to the musical example, Theme A once more, and this time, play the bells yourself on the notes E, G, and C, as they occur in the music, reading from your theme sheet. You may practice the bell part before playing along with the music.

Turn on your tape recorder.

b. Stimulus

Musical Example #7 (Theme A)

c. Response

(The student plays bells reading from the theme sheet with the music; no written response is required).

---

d. Answer

Good, now you know Theme A.

Go on to Sequence #8.

Sequence #8

a. *Directions*
Listen to the musical example, *Theme A* and *Theme A Repeated*, and indicate whether *Theme A Repeated* is *higher*, *lower*, or *the same* as *Theme A*, by underlining the correct word.

b. *Stimulus*

Musical Example #8 (*Theme A and Theme A Repeated*)

c. *Response*

(1) higher (2) lower (3) the same

---

d. *Answer*

(1) *higher*

Theme A Repeated is higher than *Theme A*.

Go on to *Sequence #9*.

Sequence #9

a. Directions

Listen to the musical example, Theme B and indicate whether the music is in a minor mode, or whether the music is in a major mode. Underline your choice.

Turn on your tape recorder.

b. Stimulus

Musical Example #9 (Theme B)

c. Response

(1) minor (2) major

---

d. Answer

(1) minor

Theme B is in a minor mode.

Go on to Sequence #10.

Sequence #10

a. Directions
Listen to the musical example, Theme B and Theme A and indicate whether the mode of the music changes from major to minor, minor to major, or stays the same. Underline your choice.

Turn on the tape recorder.

b. Stimulus

Musical Example #10 (Theme B and Theme A)

c. Response

(1) major to minor (2) minor to major (3) stays the same

---

d. Answer

(1) minor to major
The mode of the music in Theme B is minor and changes to major in Theme A.

Go on to Sequence #11.

Sequence #11

a. Directions
Listen to the musical example of the entire composition and write the form of the composition.

Turn on your tape recorder.

b. Stimulus

Musical Example #11 (Entire Composition)

c. Response

Write the form here ___ ___ ___ ___.

---

d. Answer

AABA
The form of the entire composition is AABA. Good work.

End of program.

III. INTERPRETATION

A. Analysis of objectives

The knowledge and skill which the program seeks to develop is entirely cognitive in nature, involving a "knowledge of specifics," which may be thought of as the recall of the "elements from which more complex and abstract forms of knowledge are built." Using Gagne's ordering, the skill is classified as a "multiple-discrimination learning."

B. Presentation mode

Material to be learned is presented through the media of sequenced tape recordings. Student responses are recorded in an answer booklet, which also provides the necessary instructions for using the tapes.

C. Evaluation

The behavior which this instructional material seeks to develop is the ability to write the form of the musical composition. To the extent that the learner can do this, the program is a success.

Since criterion tests were not included in the construction of the packet, a suitable measure of this knowledge and skill would need to be developed. A sample item from such a test might be presented as follows:

> You will hear each musical example two times. Listen to the number of different themes within each musical example two times.
>
> 1. Write the number of different themes. _____
> 2. Write the number of different themes. _____
> 3. Write the number of different themes. _____

Criterion tests would be designed to measure the student's knowledge and skill in identifying the rhythmic and melodic elements of the musical composition. These tests would indicate the extent to which the student has attained mastery of the material. Analysis of the student's test performance would indicate at what point in the program branching units would be needed, and which sequences would need revision. Analysis of variance would indicate how consistently each sequence was operating. A continuing evaluation of student performance would indicate if the 90 per cent efficiency limit is appropriate for the program. Each sequence would need to be examined for the existence of uncontrolled variables which might affect student performance. Following the basic principles of programed instruction, the program would be subject to continual modification based on the evaluation of the learner's performance.

CONCLUSIONS AND RECOMMENDATIONS

The ultimate conclusion of the project's work is that the use of non-book instructional materials is an effective means of improving music education but the misuse of such materials will almost as certainly cause harm.

Also concluded is that any excessive use of one medium to the exclusion of others is as inadvisable as is the perpetuation of teacher-oriented seminar or lecture presentation as the sole means of creating a learning environment.

The final conclusion would be that a multi-media approach has its greatest value in allowing for a sufficient variety of presentation modes to provide adequately for individual differences in learners.

This leads to the primary recommendation which is that in order to select accurately suitable presentation modes, some systematic means of devising a basis of selection must be made. It is the author's opinion that the application of instructional systems analysis best provides such a means. The prime components of systems analysis are the accurate definition of measurable educational objectives and its provisions for on-going evaluation throughout the process. These components would seem to allow for the selection of the most desirable presentation mode(s) in a given situation.

The author would recommend that graduate students and their advisors consider seriously the potential directions for controlled research as reflected in the findings and analysis section of this report.

He would further suggest that institutions involved in teacher training consider the implications of this and other research in the area of technology. This should be done with an awareness of the fact that teachers usually teach as they have been taught and that to talk about methodologies and approaches to learning is not sufficient to insure their use. Higher institutions of learning must be willing to embrace in their approach to learning the changes they advocate for those they instruct.

Perhaps the greatest task for not only music education but all of public education to face is the retraining of the existing teaching force. The vast majority of learning environments which exist in our public schools are most definitely teacher-oriented. This fact by itself lessens the learning potential by the lack of sensitivity on the part of the teacher to the needs of the individual learner. Such an environment is not only naturally resistant to change of any kind but is especially resistant to the kind of change that educational technology requires. The application of technology to education requires the creation of a learning environment that is learner-oriented rather than teacher-oriented. Such a change means a rather drastic alteration in the role of the teacher. Only outstanding programs of teacher retraining can bring a smooth and effective transition in this shifting role of the teacher.

Further study and research to determine the optimum means of teacher training and retraining to apply technolgy more adequately to education is thus the most pressing recommendation of this report.

GLOSSARY

ACETATE - A sheet of transparent film upon which a reproduction of a master may be made.

AFFECTIVE BEHAVIOR - The response arising from emotions, feelings, attitudes or beliefs.

AFFECTIVE DOMAIN - That area which is characterized by emotions, feelings, attitudes or beliefs.

BEHAVIOR - In instruction, this refers to any visible response displayed by a learner.

BEHAVIORAL OBJECTIVE - An aim stated in terms of specific measurable performance.

COGNITIVE BEHAVIOR - The responses arising from recognition, recall or comprehension of specific knowledge.

COGNITIVE DOMAIN - That area which is characterized by recognition, recall or comprehension.

COUNTER GUIDE - A numerical reference to tape recorded segments.

CRITERION - A standard or test by which terminal behavior is evaluated.

DIAZO - A chemical process used in the development of transparencies.

ENTRY BEHAVIOR - Attitude, knowledge and skills possessed by a learner at onset of instruction.

FRAME - The mounting to which the completed acetate statics and overlays may be permanently affixed.

GOAL - The ultimate aim or intention in a learning process.

GREASE PENCIL - A pencil for writing on a transparency which produces a non-permanent marking that can be erased.

HARDWARE - The mechanical equipment used for the production or presentation of instructional materials.

INSTRUCTIONAL TEAM - A group of professionals who design and/or implement curricula.

INTERFACE - The interaction of a learner with a selected learning environment.

LEARNING LABORATORY - An area equipped with instructional equipment and individual learning stations permitting instruction and response.

LEARNING SEQUENCE - A process of instruction which is structured with gradually increasing difficulty.

MASK - An opaque overlay.

MASTER - The original copy from which a transparency can be produced.

NARRATED TAPE - A sequenced tape recording containing narration with or without musical examples.

NON-BOOK INSTRUCTIONAL MEDIA - The means or instrument other than books used in teaching procedures.

OBJECTIVE - An aim toward which efforts are directed. (see also behavioral objective)

OVERHEAD PROJECTOR - A machine which sends a light through a glass staging, through and around any object on the stage, projects and focuses this light picture onto a screen or wall, by means of an overhead prism, in a lighted room.

OVERLAY - A transparency or mask to be superimposed on a static.

PHOTOTYPE - Individual paper lettering used for titling - attached to a master by mylar tape.

PRESENTATION MODE - The medium or media to be used in a learning situation.

PROGRAM - A unit of instructional material which has been arranged as a sequence of small informational increments and which provides for immediate evaluation of responses.

PROGRAMED INSTRUCTION - Presentation of a program.

PROGRAMED TAPE RECORDING (technique) - Pre-recorded tape of sequenced musical examples.

PROJECTUAL - A transparency prepared for use on an overhead projector.

REGISTRATION - Placement of one transparency or master over another so that complementary elements are in correct alignment.

RESPONSE MODE - The manner in which the learner reacts orally, manually or mechanically.

REVERSAL - A projectual on which the dark and light areas are reversed.

SCORE-ON-ROLL - The reproduction of musical notation on a continuous roll of transparent film.

SEQUENCED TAPE RECORDING - Musical examples which have been presented in a specific order on electromagnetic tape.

SLIDING TRACK - A means by which overlays may be attached to a projectual allowing them to move either vertically or horizontally.

SOFTWARE – Content presented in teaching.

STAGE - The glassed portion of the overhead projector upon which a transparency is placed.

STATIC - Permanently mounted immovable acetate.

SYSTEMS ANALYSIS - The continuing evaluation of an operation (in this case an educational operation) in terms of input, process and output.

TERMINAL BEHAVIOR - The behavior expected as the outcome of a given learning sequence.

TRANSPARENCY - A clear acetate or film upon which an image has been produced.

VARIABLE - A changeable factor which may influence behavior in an experimental situation.

APPENDIX

Project Staff
and
Inventory Summary

Project Director: Mr. Thomas Vasil
Instructional Materials Consultant: Dr. Frank DiGiammarino
Assistant Director: Mr. Donald Gillespie, Jr.

ELEMENTARY LEVEL

Coordinator: Mr. Robert E. Morrill
Scituate High School, Scituate, Massachusetts

1. Fingering Charts for Elementary Woodwinds
2. Unison Scales for Elementary Band
3. Rhythm Patterns

Mrs. Ruth C. Ashley
Easton Public Schools, North Easton, Massachusetts

1. Themes and Analyses of Musical Compositions from Adventures in Music Series, R. C. A. Victor

Mr. James D. Amirault
Hamilton-Wenham Regional High School,
Hamilton, Massachusetts

1. Tape Recorded Units to Reinforce Correct Intonation, Pitch and Rhythm in Beginning Instrumental Students using Tune-A-Day Method Book

Mrs. Evelyn M. Brandes
Swampscott Public Schools, Swampscott, Massachusetts

1. Fundamentals of Elementary Music Reading
    - a. An Introduction to Rhythm
    - b. An Introduction to Rhythmic Notation
    - c. Finding do in Sharps and Flats
    - d. Primary Melody - Form - Harmony
    - e. An Introduction to Beginning Music Reading

APPENDIX

JUNIOR HIGH LEVEL

Coordinator: Mrs. Sheila Reid
Brooks School, Lincoln, Massachusetts

1. Analysis of the form of Bartok's Fourth String Quartet
2. Analysis of Stravinsky's Compositional Techniques in L'Histoire Du Soldat

Mrs. Ruth D. Amelotte
Lancaster Public Schools, Lancaster, Massachusetts

1. Music Skills Related to the Bass Staff
    - Set A. Introductory Set
    - Set B. Treble Melodies
    - Set C. Bass Melodies
    - Set D. Bass Rounds
    - Set E. Harmonizing with Chord Roots
    - Set F. Two and Three-Part Harmony

Mr. Robert B. Cullen
Murdock Junior-Senior High School,
Winchendon, Massachusetts

1. Application of Media to a Listening Lesson
    - a. Finlandia by Jan Sibelius
    - b. Hary Janos Suite by Zoltan Kodaly

Mr. Ralph A. Metcalf
Shrewsbury High School, Shrewsbury, Massachusetts

1. Understanding and Reading Rhythm through Response and Performance: A supplement to General Music Classroom Activities

APPENDIX

HIGH SCHOOL LEVEL

Coordinator: Mr. Dwight Killam
Minnechaug Regional High School,
Wilbraham, Massachusetts
1. Rhythmic and Melodic Perception for High School Students

Mrs. Virginia C. Coffin
Westfield High School, Westfield, Massachusetts
1. Choral Aids
    - Set 1. The Printed Page
    - Set 2. Vocal Technique
    - Set 3. History and Style

Mr. Harold E. Fiske
Gardner High School, Gardner, Mass.
1. Understanding Music through Analytic Listening

Mr. Edward H. Thiebe
John J. Duggan Junior High School,
Springfield, Massachusetts
1. Developing Sight-Singing Skills as a Class Activity
    - Part 1. Rhythm
    - Part 2. Pitch
    - Part 3. Intonation

COLLEGE LEVEL

Coordinator: Miss Sandi Lea Kinyon
Lexington High School, Lexington, Massachusetts
1. An Introduction to Score Reading
2. An Introduction to Atonal Music and The Twelve Tone Technique through the works of Arnold Schoenberg, Alban Berg, and Anton Webern

APPENDIX

Mr. Donald J. Gillespie, Jr.
Lexington Public Schools, Lexington, Massachusetts
1. Echelon Routine No. 1
2. Approaching the Band Rehearsal Using Overhead Projectuals and Tape Recorder

Mr. David D. Kaplan
Berklee School of Music, Boston, Massachusetts
1. Orchestration
    - Set One - Strings
    - Set Two - Brasses
    - Set Three - Woodwinds
    - Set Four - Percussion

Miss Mary Ann Norton
Worcester State College, Worcester, Massachusetts
1. Materials for Music Literature

Miss Vernice Van Ham
Salem State College, Salem, Massachusetts
1. Development of Tape Recordings and Overhead Transparencies to be used as a Supplement to and in Conjunction with the Text and Recording of *The Craft of Music Teaching in The Elementary School* by Schubert and Wood, Silver Burdett Company
2. Materials for Music Literature

Mr. James A. Wiltshire
Boston University, Boston, Massachusetts
1. Programed Instruction in Music Listening (programed tape technique)
    1. March from *Summer Day Suite*, Prokofieff
    2. Prelude to Act III from *Lohengrin*, Wagner
    3. Minuetto from *Divertimento No. 17 in D*, Mozart